THURSDAY, AUGUST 15, 1872.

ORIGINAL LECTURES.

CLINICAL LECTURE ON ANÆMIA.

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THE patient whom I have brought before you this morning has been in the hospital just three weeks, and those of you who have already seen him in the wards will be able to compare his appearance to-day with that presented by him just after his admission. During the time he has been under treatment a marked improvement in his condition has taken place. The lips, gums, and tongue, although wanting in the ruddy hue of health, do not show the corpse-like pallor which was so prominent a symptom when he first came under my care. There is also a return of color to his cheeks, and, although he has been confined to bed until within a few days, he is now sufficiently strong to walk down from the second story into this amphitheatre. He is still weak, and, as his appearance indicates, he is suffering from anæmia, or, to give the condition a more popular term, poverty of the blood. In anæmia the blood is poor in quality rather than deficient in quantity, for, even in those cases in which the condition is brought about by the rapid abstraction of blood, the blood soon regains its former volume from the absorption of water and of the salts by the blood-vessels.

As anæmia may be induced by different causes, it may be well at this time to give you a brief history of the patient's case.

R. P., sailor, æt. 39, admitted March 26, 1872. His history previous to the commencement of his present illness is good, and he has, so far as can be ascertained, no predisposition to any hereditary disease. He states that during the month of November he was in the Belize, exposed to the emanations of marshes, and that about the middle of December he sailed thence to the island of St. Thomas, where he remained for some weeks. On February 16, the day before leaving St. Thomas, he had a severe headache, which continued until February 18, when he was seized with vomiting and a chill of great severity. About a week later, exhausting diarrhœa set in. Quinia was administered to him by the captain of the vessel, but apparently without effect, for shortly after admission he had a well-marked chill. He was immediately prescribed large doses of quinia, twenty grains in the twenty-four hours, with directions to the resident physician to increase the amount if this were not sufficient to prevent a recurrence of a paroxysm. Opium suppositories were used for the purpose of controlling the diarrhœa, recourse being had to these rather than to opium by the mouth, in consequence of the extreme irritability of the stomach. His diet was of course carefully regulated, and consisted in large part of beef-tea and milk. Under this treatment he rapidly improved, and we have now apparently nothing left to contend with but the anæmia; and the dose of quinia has consequently been reduced to six grains daily. We are giving him in addition small doses of the tincture of the perchloride of iron, which he bears perfectly well. So far as I have been able to discover, he has no disease of any of the solid viscera. The œdema of the feet, which you observe to be present, naturally suggested disease of the kidneys or of the heart, but upon examination the urine was found not to contain albumen, and there is no discoverable organic disease of the heart. The dropsy depends therefore simply upon the fact that in this case, as is usual in anæmia, we have a thin blood, blood-vessels with relaxed walls, and a feeble heart causing a sluggish circulation: circumstances all of which are favorable to the extravasation of the serum of the blood into the cellular tissue of the most dependent portion of the body.

As it is my purpose to dwell more particularly, this morning, upon those points in the history of this case which are illustrative of anæmia, it may be well for us to inquire, before proceeding further, what are the causes of this condition. It seems to me that these may be conveniently classified under three heads. First, causes producing a direct or indirect loss of blood; secondly, causes which act by interfering with the proper nutrition of the body; and thirdly, diseases accompanied by a more or less rapid breaking-down of the blood-corpuscles.

Under the first head would of course be placed all cases arising from the various forms of hemorrhage, whether occurring from disease, from accident, or as a part of medical treatment, as in venesection. Also cases consequent upon profuse suppuration, over-lactation, diarrhœa, Bright's disease, diabetes; or upon any disease giving rise to an excessive discharge, no matter what the nature of this may be. Formerly, anæmia was frequently produced as the result of treatment; but recourse to the lancet is now so infrequent, and the amount of blood taken in this way is generally so small, that this reproach can no longer with justice be made to physicians. It is scarcely necessary to explain to you that a discharge constitutes a heavy drain upon the blood, and cannot long continue without producing an impoverishment of the circulating fluid. The causes which I have placed under the second head are more numerous, but their action is none the less sure, even if it appears to us to be less direct than that of the first set. They may be enumerated as follows: food of poor quality or deficient in quantity; pain, grief, or any emotion which by retarding digestion interferes with the proper assimilation of food; occupations—as, for instance, mining—in which the workman is confined in damp, ill-ventilated places, where he is deprived of pure air and sunlight, and where, consequently, the proper oxygenation of his blood is prevented. Under the third head may be included many of the acute, and some of the chronic, forms of disease. Rheumatism and typhoid fever frequently produce temporary anæmia, which disappears during convalescence. It is also developed with even greater rapidity in the course of purpura and scorbutus. The influence of certain chronic diseases, however, in producing anæmia, is even more marked: hence it is a characteristic symptom of phthisis, cancer, and intermittent fever.

We have in the history of the patient before us two well-recognized causes for the anæmia which is present: intermittent fever, accompanied by chills of great severity, which he assures us continued from February up to the date of his admission to our hospital; but this cause could scarcely alone have given rise to anæmia of the intensity which existed in his case: at least I have never happened to meet with such an instance of the effects of paludal poisoning. I am therefore disposed to attribute the larger share in the production of his anæmia to the diarrhœa, which, as I have already said, he represents as having been almost colliquative.

The pallid appearance of the patient, his bloodless lips, gums, and tongue, all point unmistakably to anæmia as the condition from which he is suffering. If we want further proof that this is really present, we have it in the feeble pulse, the frequent action of the heart, the tendency to syncope upon exertion, and the pale urine, all of which exist in this case. The *rationale* of these symptoms is so simple that I shall allude to it very briefly. The urine in health derives its color from the coloring-matter of the blood; if this is deficient, as it must be whenever the red blood-corpuscles are di-

minished in number, the urine must be pale. The tendency to syncope upon exertion is caused by the feebleness of the heart, which, when overtaxed, fails in its efforts to send blood to the brain. The excessive action of the heart is in response to the demands made upon it by the system, which calls for good blood and receives little more than a slightly-colored serum. The feeble pulse is due to the fact that the contractions of the heart, although frequent, are not vigorous.

There are, however, physical signs furnished in anæmia, which are even more valuable as diagnostic aids than the symptoms above alluded to, because the latter are frequently little marked in cases in which the former are distinctly recognized. I allude of course to the anæmic murmurs. These may have their origin in the heart, in the arteries, and in the veins. How shall we distinguish the cardiac anæmic murmurs from those depending upon organic disease? This, as a general rule, is not difficult. We are to remember that an anæmic murmur is invariably heard at the base of the heart, that it has more tendency to be propagated in the course of the pulmonary artery than in that of the aorta, that it is always systolic in time and soft in quality, and that it generally coexists with the venous hum in the neck. I would add another character which, after having observed it for myself, I have found rather obscurely alluded to by some writers upon auscultation. The murmur will be found to be much more intense when the patient is in the recumbent position than when he is either standing or sitting. This will be found to be true in the case of the patient before you; and, since I have never failed to detect this greater intensity in the recumbent position in every instance in which I have auscultated anæmic patients, I believe it is a character of some importance in the differential diagnosis of anæmic from organic murmurs.

Arterial murmurs may sometimes depend upon alterations in the density of the blood, but they are of less value than either cardiac or venous murmurs. They are of course intermittent, and are always synchronous with the systole of the heart. The venous murmurs, on the other hand, are of great importance. They are continuous, not intermittent as is the case with arterial and cardiac murmurs; but, while continuous, they vary in intensity from moment to moment. They are generally humming or buzzing in quality, and are occasionally modulated so as to resemble musical sounds. These, when the veins of the neck are examined, unlike the cardiac murmurs, are most intense when the patient is standing, and are made more distinct by exertion. The jugular vein is the one generally chosen for examination.

The stethoscope should be placed between the two insertions of the sterno-cleido-mastoid muscle, preferably on the right side, because the course of the vein to the heart is here more direct than on the left side,—a circumstance which renders the current of the blood rather more rapid. The patient's head is to be thrown slightly back, and his chin should be turned to the side opposite to that examined, so that the muscles of the neck shall be tense and a slight pressure exerted upon the vein. Gentle pressure should also be made with the stethoscope; care, however, being observed that this is not pushed too far, or else the current of the blood in the vein will be obstructed and the murmur cease. You may easily satisfy yourselves that the sound is of venous origin by compressing the vein in its course above the point to which you have applied the stethoscope, when you will find that the murmur is no longer heard; relaxing the pressure, it will again be perceived. If there is at the same time, as very often happens, a murmur in the carotid artery, care will enable you to recognize it as well as the venous hum. You are scarcely likely to mistake the respiratory sounds in the larynx, and it is sufficient to remind you that these are heard upon the side of the neck.

The cause of these murmurs has never been very satisfactorily explained. By some they have been attributed to vibrations taking place in the valves of the heart or veins, or in the walls of the latter; by others to the readiness with which currents arise in a thin blood. In favor of the latter view is the fact, which we may demonstrate for ourselves, that waves are more readily excited in liquids of little density than in those of greater consistence. Unquestionably we must explain the murmur in this way whenever it is heard over veins unprovided with valves, or having walls which we may assume are incapable of vibrations, as the sinuses of the dura mater. Still, I am not disposed to throw aside the other explanation of their mechanism. In anæmia we have not only thin blood, but also poorly-nourished tissues, and among these are of course the valves of the veins and heart, and the walls of the former. We will admit that the normal vibration of the valves of the heart gives rise to sounds as distinguished from murmurs; but in the general relaxation of tissue which attends anæmia it is reasonable to suppose that such irregular vibrations may be excited in the valves and walls of the vascular system as will give rise to murmurs. Duchek, the successor of Skoda at the Vienna School, has recently referred the venous hum, or *bruit du diable*, as it is called by the French, to the vibrations of valves in the jugular vein which are situated immediately below the point over which I have just directed you to place your stethoscope; but I have already told you this murmur is heard in veins unprovided with valves. I am sustained in this view by the fact that murmurs are sometimes heard under circumstances where, from the appearance and history of the individual, it is impossible to admit either anæmia or organic disease. In very nervous persons who are undergoing examination for life-insurance such murmurs are occasionally observed, and it does not seem to me too much to assume that in these cases there is relaxation of the tissues composing the vascular system, which causes irregular vibrations of the walls of the vessels.

Before passing to the subject of the treatment of anæmia, I wish to allude again to the anæmic murmur at the base of the heart, and which I told you was most distinctly heard when the patient is lying down. I have not been able to find a wholly satisfactory reason for the latter fact. It has seemed to me probable, however, that it might in some way be connected either with some altered relation of the heart to the great vessels at its base, or else with the restraint which the recumbent position exercises upon the freedom of the respiratory movements. The venous hum is best heard when the patient is standing, simply because in this position the return of blood from the head to the heart is favored, and consequently the current is more rapid, which is the case also after exertion.

Of course the prognosis in anæmia must depend to a great degree upon the removability of its cause, and your knowledge will tell you which, among the causes I have enumerated, are within the control of the physician. In the case before you I have no hesitation in making a favorable prognosis,—not only because intermittent fever and diarrhœa are generally curable, but because of the great improvement which has already taken place in the patient's condition. At first it was questionable whether recovery could take place; and had the irritability of the stomach continued, I fear he would have fallen a victim to it.

The treatment has been simple, and consisted of antiperiodics in the beginning, and, later, of tonics. Within a few days I have given the patient small quantities of the tincture of the perchloride of iron, which I think has undoubtedly been productive of part

of the improvement in his health. It is important to regulate the diet, which should consist of easily-digested and highly nutritious food. Other drugs than iron will sometimes be of service in the treatment of anæmia; and of these I know of none better than arsenic, which may be given either alternately with iron or conjointly with it.

ORIGINAL COMMUNICATIONS.

ON SOME CASES OF EMPHYSEMA OF THE NECK

DUE TO LESIONS OF THE RESPIRATORY APPARATUS.

BY WILLIAM PEPPER, M.D.

(Concluded.)

ONE of the most interesting points in the cases of obstetrical emphysema last alluded to lies in the fact that they present, in their simplest form, the effects of intense expiratory efforts upon the pulmonary tissues when in a perfectly healthy state, and that we are therefore able to argue from these results as to what effects will follow in analogous cases. It is in the first place evident that the explanation of the occurrence of interlobular emphysema of the lungs must have a close connection with that of the ordinary vesicular form. In the one case the distending cause acts violently and abruptly, and rapidly produces so great a degree of dilatation that the delicate walls of the air-vesicles tear; while in the other the distending cause acts with frequent iteration but with less intensity, and the tissues, which are often the seat of some degeneration or peculiar feebleness, gradually yield, and there results a permanent dilatation of the air-sacs.

It is well known that two antagonistic theories are held by different authorities as to the mode of production of emphysema: one, the *inspiratory*, which attributes it to the excessive operation of the forces concerned in inspiration; the other, the *expiratory*, which explains the dilatation of the vesicles as the result of violent but impeded expiratory efforts. The inspiratory theory is still upheld by some eminent writers, although clinical observation is gradually leading to its abandonment. In its original form it was based upon the erroneous hypothesis that the forces of inspiration were greater than those of expiration, and that consequently emphysema might result from mere excessive inflation of the lungs. This has, however, been universally abandoned as of general application, since the discovery of the important fact that in *forcible* breathing the power of expiration is considerably greater than that of inspiration; though I have no doubt that in some morbid conditions of the pulmonary tissues violent inspiration may of itself be capable of producing emphysematous distention of the air-vesicles.

The form of the inspiratory theory which is still retained by some authorities is based upon modifications introduced by Dr. William Gairdner, and is an expansion of the idea that if certain portions of the lungs are, from collapse or other cause, incapable of expansion, the atmospheric pressure will determine excessive dilatation of the remaining portions in order to prevent the occurrence of a vacuum as the thoracic walls expand. There are, however, such grave objections to this theory, which it will be observed rests upon the supposition that the expansion of the thorax and the amount of air inspired remain at the normal point although portions of the lungs are collapsed or otherwise rendered unable to expand, that I am strongly inclined to regard the *expiratory* theory as the only one capable of general clinical application. We owe to Sir William Jenner chiefly the satisfactory refutation of the principal argument which was formerly brought against this latter theory,—that "the expiratory act is mechanically incapable of producing distention of the lung or of any part of it. The act of expiration tends entirely towards emptying the air-vesicles by the uniform pressure of the external parietes of the thorax upon the whole pulmonary surface; and even when the air-vesicles are maintained at their maximum or normal state of fulness by a closed glottis, any further distention of them is as much out of the question as would be the further distention of a bladder blown up and tied at its neck by hydrostatic or equalized pressure applied to its entire external surface." (Gairdner.) A little consideration of the anatomical relations of the lungs to the thorax shows the falsity of this argument. The different portions of the lungs are in contact with surfaces and tissues of very different degrees of resisting-power; and, while the entire postero-lateral portions are supported by the unyielding ribs, the apices are covered only by soft tissues, and the anterior borders of the lungs are supported externally by the comparatively-yielding costal cartilages, while centrally they are able to encroach considerably upon the tissues of the mediastinal spaces. In ordinary free expiration the air is forced out of the lungs by a pressure so moderate and gradual that even the weakest parts of the thoracic walls are sufficiently firm to maintain it. But when the expiratory efforts become more violent, the air is pressed with great force from the central, basic, and lateral portions by the ascent of the diaphragm and the compression of the thorax, while the outward current from the apices and anterior margins is comparatively feeble. If, therefore, from any cause the normal relation between the volume of the expiratory current of air and the calibre of the large bronchi be disturbed, the portion of air which cannot escape will be driven violently into the apices and anterior margins, not only overcoming the outward current of air proceeding from those portions of the lungs, but producing an excessive degree of distention of their air-cells. The strongest possible confirmation of the truth of this view is to be found in the fact that emphysema of the lungs, both vesicular and interlobular, is found to be developed in the various parts of the lungs in precise correspondence with the degree in which they lack firm external support.

There are two ways in which a disturbance of the above relation may be effected: either by an obstruction in the air-passages which prevents the free escape of the air, or by the expiratory act being so sudden and violent that the volume of air hurriedly forced from the air-vesicles is too great to pass freely through the primary bronchi. Instances of this latter condition are familiar to all in violent fits of coughing, during which, even when there is no obstruction in the air-passages, the degree of distention of the apices may be appreciated by the bulging of the supraclavicular tissues. The full pulmonary resonance which is elicited by percussion of this bulging proves conclusively that it is due to distention of the apex. No less marked instances of the other condition are to be found in cases of membranous croup, of tumors of the larynx, or of partial obstruction of the bronchial tubes from the pressure of enlarged glands. The most extreme illustration is, however, as we have seen, to be found in the second stage of labor, where the glottis is firmly closed while the most violent and prolonged expiratory efforts are made to aid in the process of expelling the fœtus. The tissues of the apices and anterior borders of the lungs are subjected to a terrific degree of strain, there is marked supraclavicular bulging of the apices, and when the expulsion of the fœtus is arrested, rupture of some of the pulmonary air-vesicles may occur, with the production of interlobular, mediastinal, and external emphysema. We see here, then, in its most

uncomplicated expression, the influence of excessive expiratory efforts in suddenly producing excessive distention and rupture of the air-cells of healthy lungs. The same result has been seen in cases of hydrophobia, where there is spasmodic closure of the glottis with violent tumultuous action of the expiratory muscles. It will easily be understood, therefore, that the operation of the same forces, in a less violent but more frequently repeated way, may give rise to a more gradual distention of the pulmonary tissue without leading to rupture of the air-cells, or, in other words, may cause vesicular emphysema of the lungs. It is in this way that occupations which necessitate powerful straining efforts, as in lifting heavy weights, predispose to emphysema of the lungs; and comparative pathology teaches us that in the same way the lungs of draught-horses are frequently emphysematous. Of course the action of these forces will be greatly facilitated by any condition of degeneration of the walls of the air-vesicles which impairs their elasticity and contractility; and undoubtedly in many cases such a morbid state of the pulmonary tissue is the primary step in the development of emphysema. I have already alluded to the fact that interlobular emphysema may also be caused by the abrupt and violent expiratory effort attending a paroxysm of coughing, even when there is no obstruction in the air-passages and no morbid condition of the pulmonary tissue. Far more frequently, however, there is associated some cause of partial obstruction, such as the spasmodic contraction of the air-passages in hooping-cough, the presence of layers of false membrane in the larynx and trachea, or thickening of the bronchial mucous membrane with plugs of viscid tenacious mucus in the tubes. When such conditions as these are present, attended with frequent and violent coughing, everything is favorable for the development of emphysema of the lungs; and accordingly it is a matter of common clinical observation that such diseases are frequently followed by dilatation of the air-cells. My object at present is to call attention to the fact that here also the intense strain to which the air-cells in the apices and anterior borders (and to a less degree in the margins of the under-surfaces and in the posterior borders of the lungs) are subjected during the violent expiratory efforts attending coughing may lead to their rupture, with the production of interlobular and external emphysema. Such an occurrence is of extreme rarity in adult life, owing partly to the greater rarity of most of the diseases that are attended with paroxysmal cough, partly to the greater support to the lungs afforded by the thoracic walls, and partly perhaps to the less yielding character of the pulmonary texture. In childhood, however, the occurrence of cervical and even general external emphysema as a complication of pulmonary disease is not very rare. The following is the only instance that has come under my own observation; but Roger, writing in 1862 (*loc. cit.*), was able to cite nineteen instances which he had collected from the records of the previous twenty years.

Case IV.—Acute Miliary Tuberculosis: Cough and Dyspnœa: Cervical Emphysema—Interlobular Emphysema with Perforation of the Pleura: Emphysema of Mediastinum and Neck.—John F. was born of a stout, hearty young woman, 17 years of age, who nursed him; and he seemed to thrive until eight days before his death, which took place January 24, 1868, at the age of four months. The symptoms during his sickness were dyspnœa, occasional dry hacking cough, and anorexia. A few days before his death, subcutaneous emphysema made its appearance over the lower part of the neck in front, spreading over both sides and altering the entire contour of the neck, but not descending below the clavicles. The post-mortem examination was made fifteen hours after death.

The head was not examined. The subcutaneous emphysema persisted as above described.

On removing the sternum, the mediastinal spaces were found much distended with air, the meshes of the connective tissue in some spots forming vesicles more than one inch in diameter, and suggesting forcibly the appearances often seen in animals in the slaughter-house. The emphysema extended up along the trachea and larynx, and to a considerable distance on either side of the neck. There was not a trace of decomposition of the tissues. The lungs collapsed but slightly; the posterior portions were deeply congested, purplish, and almost non-crepitant, but expanded almost fully on inflation. There was neither pneumothorax nor pleuritic effusion or adhesions. The larynx, trachea, and lungs were removed, and inflated under water, when air was found to escape from the right lung in two places,—on the anterior face of the upper lobe, and on the inner surface of the apex. On examining the rupture on the anterior surface of the upper lobe, the opening was found to be very small, and to be seated in the midst of a spot where the pleura was separated from the lung so as to form a large vesicle. There were other smaller pearl-like vesicles studding the surface of the lung. The apex was the seat of numerous miliary tubercles, both in the substance of the lung and immediately beneath the pleura. At one point on its inner aspect there was such a subpleural deposit, half an inch in diameter, which had undergone cheesy change, and in the centre of which there was an ulcerated opening in the pleura. The escape of air through this perforation was prevented by the close apposition of a tuberculous bronchial gland, about half an inch in diameter, which lay immediately on the right bronchus. The other bronchial glands, especially on the right side, were also tuberculous. The left lung presented no perforation of the pleura. At several points, especially along the anterior edge of the lung, there were large emphysematous bullæ, one inch long by half an inch wide; and in the neighborhood were numerous smaller vesicles of the same nature. On incising the lung near these, small clusters of gray miliary tubercles were found. Miliary tubercles were also found on the peritoneal investment of the liver and spleen, and in the substance of these organs and of the mesenteric glands. There were small irregular ulcers in the lower part of the ileum, and numerous small yellowish submucous deposits in the cæcum.

The influence of age in favoring the production of this rare form of emphysema is very strongly pronounced. Of twenty recorded cases, including the above, six occurred before the age of two years, ten between two and four years, and four only of the patients had passed their first infancy. In all of these cases, further, the little patients had been suffering with some acute affection of the respiratory organs, attended with frequent and violent cough; in eight cases this primary disease was hooping-cough, in six pneumonia or broncho-pneumonia, and in six acute tuberculosis of the lungs. It is evident, therefore, that the necessary conditions were present in all the cases for the production of interlobular emphysema in the way before described, and that, owing to the large amount of air escaping into the interlobular and subpleural connective tissue, it forced its way to the root of the lung, and then escaped through the mediastinum to the subcutaneous tissue of the neck.

It seems to me highly probable that in the case I have just recorded, the rupture of the subpleural air-cells was directly favored by the presence of the miliary tubercles. There was certainly a very constant connection between the position of the patches of tuberculous deposit and the bullæ of subpleural emphysema. It may be that the tuberculous process had led to a loss of firmness and elasticity in the walls of the neighboring air-vesicles, and thus favored their rupture; or else that in the incipient softening of the miliary tubercles a communication had been established between the subpleural or interlobular connective tissue and a minute bronchiole. This latter would seem to have been the mode of development of the subpleural emphysema in the following case, in which there was also pneumothorax, but no mediastinal or external emphysema.

Case V.—Broncho-Pneumonia—Acute Miliary Tuberculosis—Subpleural Emphysema, with Pneumothorax from Perforation of the Pleura.—Mary McC., aged 13 months, died February 11, 1868, after a short illness, during which the marked symptoms were dyspnœa and cough, with occasional vomiting.

At the autopsy the right lung was found congested and partially collapsed, but admitted of complete inflation. In the posterior part of the fissure between the upper and middle lobes, the upper lobe presented a separation of the pleura from the lung to the extent of half an inch in diameter. On the apposed portion of the lower lobe there was a similar large bulla. The lung-tissue immediately subjacent to these cavities was consolidated to a distance of one-eighth of an inch. On cutting into the bullæ, they were found to be distended with air and dark sanious pus, and their cavities presented minute trabeculæ and septa, consisting of bronchioles and the remains of ruptured air-vesicles. They had evidently resulted from a combination of patches of suppurative pneumonia of the superficial layer of the lung with subpleural emphysema; and it seemed reasonable to conclude from the unusual relations of the emphysematous bullæ that they were due to the process of softening which had opened a connection between some of the terminal bronchioles and the subpleural connective tissue. There were scattered miliary tubercles in the upper lobe.

The left lung presented two similar but larger bullæ (fully one inch in diameter), in exactly the corresponding position between the upper and lower lobes. There was a small perforation of the pleura in the one in the upper lobe. Two other similar but smaller cavities were found on the surface of the lower lobe, in each of which the separated pleura presented a perforation about one-sixth of an inch in diameter. There were traces of localized pleurisy in the neighborhood, but no adhesions; and a considerable pneumothorax had resulted, causing collapse of at least one-half of the lung.

The bronchial glands, spleen, and kidneys contained miliary tubercles. There was no decomposition of the tissues.

Both of these latter cases illustrate the fact that occasionally perforations occur in the separated portions of the pleura in interlobular emphysema, and give rise to pneumothorax. In Case IV. this latter result was prevented by the close apposition of an enlarged bronchial gland over one of the pleural perforations; while it is possible that the other was produced at the examination by the forced inflation of the lung, as otherwise it ought to have been followed by pneumothorax.

The development of interlobular emphysema, with the consequent mediastinal and external emphysema, must certainly increase any embarrassment of breathing which already exists; and, if they were to attain an extreme degree, might prove the determining cause of death. This, however, does not seem to have happened in any of the recorded cases; and although it is true that a great majority (sixteen out of twenty) of the cases in which this form of emphysema has been observed have proved fatal, death has in every instance been sufficiently accounted for by the nature or violence of the primary disease. The emphysema must therefore be regarded merely as a serious complication, but one which would not justify an altogether unfavorable prognosis in an otherwise curable condition. I have already remarked that in all the recorded cases of obstetrical emphysema the patients have made rapid and complete recoveries. There is but little to be said with reference to the treatment of external emphysema following lesions of the respiratory apparatus. In cases of parturition, when it makes its appearance, the patient should be compelled to moderate her efforts, or, if practicable, anæsthesia should be induced, and the delivery effected by instrumental aid. Where it occurs in the course of some pulmonary disease attended with violent cough, the indication clearly is to allay this by the use of antispasmodics and opiates. In regard to the emphysema itself, so long as it is moderate in degree, the removal of the air may safely be trusted to the efforts of nature, which will soon effect its absorption. This may, however, be hastened by the use of gentle friction with some stimulating application. Only in cases where the degree of the subcutaneous emphysema is very extreme, and where, by its mechanical action, it evidently interferes with respiration, and thus increases the pulmonary embarrassment, should small punctures be made in the skin, and the air allowed to escape or be gently pressed by the hand towards the openings.

CLINICAL NOTES.

BY H. C. WOOD, JR., M.D.,

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FATAL CASES OF PERICARDITIS.

IN my wards at the Philadelphia Hospital there are brought constantly under my care numerous cases which, without being extraordinary, are of clinical interest; and I have thought of offering notes on such cases, from time to time, to the readers of the *Medical Times*. The present paper will be restricted to two fatal instances of pericarditis and pleuritis.

Case I.—W. K., aged 50, rather corpulent, and a moderate drinker, came into the wards of the hospital January 15, suffering from acute inflammatory rheumatism produced by exposure to cold and wet. He was perfectly helpless,—unable to move any of his limbs. He was ordered acetate of potash ʒi daily; Dover's powder as required. The following notes are taken from my ward-book:

January 17.—The man says he has had some cardiac pain, but has none at present. There is decided cardiac tenderness. Both basal and apical heart-sounds are very feeble and distant, especially the first, which cannot be detected with certainty; both are masked by a distinct to-and-fro friction-sound, which is loudest two inches above and two inches to the left of the nipple; cardiac percussion-dulness scant five and a half inches. Joints are less swollen than they were. The potash has already been suspended, on account of its sickening him. He is ordered calomel, gr. i., with ⅛ gr. of opium, every three hours, and a blister over the heart.

January 20.—Since the 16th the morning temperature has been 100°, or a fraction less, and the evening from 101° to 103°; the pulse from 90 to 100, and the respirations from 22 to 25, per minute. There are some indications of ptyalism, and amount of mercury lessened.

January 22.—Ptyalism more decided. The swelling and pain in the joints are much less than they were some days ago. The cardiac sounds have become very audible, and they are apparently normal.

January 27.—Morning and evening temperature have had the same range as before. The man, it is found, has gone out of the ward in bare feet and night-clothes, and his shoulder and arm are consequently more painful than they were. Mercury withdrawn; has only produced very slight ptyalism. Ordered potass. iodid., ʒss daily.

January 30.—Temperature-range as before. Pulse from 108 to 120, respirations from 24 to 28, per minute. The cardiac-apex sounds are normal. There is a soft prolonged rubbing murmur, heard loudest at middle of sternum, from one-half to one inch above line of nipple. At times this is absent, and it is found that on forced inspiration it becomes very loud, and on forced expiration is altogether lost.

February 4.—The man is stronger, and seems better; his shoulder easier. His temperature has fallen so that it rarely gets up to 100° in the evening. He is, however, very pale, and the cardiac sounds are unchanged.

February 6.—Cardiac murmur is only to be heard during forced inspiration.

February 16.—No material change; man somewhat stronger, but still weak. The general rheumatic symptoms are better. The morning temperature from 98⅘° to 99⅘°, and the evening from 99° to 100°. The sounds of the heart are distant and feeble, and there is evidently fluid in the pericardium: the vertical cardiac percussion-dulness is fully six inches. The liver is evidently much enlarged.

February 25.—The man is very pale and anæmic. There is no præcordial tenderness, and the dulness has lessened half an inch. The evening temperature is rarely above 99⅘°.

I was at this time called away from the city, and did not revisit the hospital until March 15. During my absence no notes were taken of the case.

March 15.—States that he has been much worse, and has suffered from cough and shortness of breath for ten days. Physical examination reveals the following:

Left lung.—Complete dulness on percussion, laterally and posteriorly, to nearly two inches above the nipple. Vocal resonance much higher in pitch, rather different in quality, and louder, than on right side. Anteriorly, percussion-dulness commencing above nipple, downwards; not changing on movement of patient. Vesicular murmur rather rude at apex; below percussion-line, replaced by faint tubular breathing; conjunctiva slightly icterode. Has had slight cough for ten days. Three weeks ago had hæmoptysis; free from it since, until about ten days ago. Has now gelatinous, thick, slightly-purulent, bloody sputum. Treatment, poultices to lung, and support.

March 20.—No change in physical signs, but man is evidently failing.

March 25.—Man dead.

Before my absence from the hospital, there had been some points of especial interest in this case, chief among which was the disappearance and reappearance of the murmur in different states of respiration, which persisted for a number of days. After my return, however, the diagnosis became much more difficult. The question was to decide whether there was pleurisy or pneumonia affecting the left lung. There was unchanging percussion-dulness with bronchial breathing above, and total silence on auscultation below. This conjunction of physical signs certainly pointed towards the existence of pleuro-pneumonia, but, misled by the very marked bronchophony over the whole dull region, although the existence of pericarditis would have suggested pleurisy, I diagnosed simply pneumonia.

Since this case I have seen several in which, with little or no pneumonic consolidation of the lung, and large pleural exudation, there was marked bronchophony; so that I have learned to look upon this physical sign as of but comparatively little importance in making up a diagnosis of consolidation.

The autopsy was as follows:

Left pleura walled with lymph all over it, full of fluid; lung pushed up to upper part, consolidated, deep blackish-red, when cut effused blood running out in quantity,—about two quarts. *Pericardium* posteriorly completely consolidated to heart, closely adherent to diaphragm; anteriorly very much thickened, forming a cavity full of fluid, and containing a large amount of lymph; honey-combed on the cardiac surface. Heart valves normal; hypertrophy with softening of walls. *Liver* enlarged, congested, hardened. *Kidneys* a little congested; otherwise normal.

The notes in the second case were only taken for a few days before death, and are too brief to be of much interest, excepting in the fact that pericarditis and pleuritis had apparently existed for some months. The diagnosis during life was pleuritis and pericarditis; the "swashing sound" being evidently a friction-sound.

Case II.—April 24.—K., aged 60, female. Patient wanders a little,—contradicts herself frequently. As well as can be determined, she was doing house-work about six months ago, when she caught a bad cold. This was followed by severe pains in the chest on both sides, and swelling of the joints. She was unable for some time to do her work; says she had no fever, and had just been able to keep around until within six or seven weeks, when she had to go to bed. Complains of having been badly treated, overworked, etc. Denies having been intemperate. Her statements evidently cannot be depended upon. In both lungs, postero-inferiorly, flatness on percussion, with absence of vesicular murmur on right side. Fine friction-râle all over cardiac region, in lying position, at apex, first sound long, with a peculiar "swashing" sound, abruptly terminated without distinct second sound. At aortic base, sounds nearly normal. The "swashing" sound is loudest about one and a half inches above apex. Apex-beat sharp, prominent, one and a half to two inches below nipple. In sitting posture heart acts more irregularly, with often a clicking sound at end of "swashing" sound. No increase of heart-dulness; has been marked cardiac tenderness and pain, but there is none at present. Pulse exceedingly feeble; 150. No transmission of murmur to abdomen. No murmur on left side of neck. On right side audible beating of arteries; on both sides increased pulsation.

April 27.—Woman delirious; pulse cannot be counted at wrist; heart beating with intense rapidity; sounds very indistinct,—not separable.

April 29.—Dead.

Pleura.—Considerable effusion on both sides, especially the right. Filling up the whole of the right pleura, hard, tough, false membrane, thoroughly organized, evidently of long standing, but with marks of recent inflammation.

Left pleura nearly free from false membrane posteriorly; anteriorly, considerable false membrane.

Left lung.—Cicatrix at the apex; otherwise nearly healthy.

Right lung intensely congested, full of fluid; nearly the whole of it solid, with dilated bronchi; sinking in water.

Pericardium anteriorly closely adherent to the heart, and very much thickened, red, and rough; *posteriorly* nearly free from the heart, but much thickened. *Mitral valve* much thickened and hardened, but not at all ulcerated; flexible. *Semilunar* valves normal, but with a few little cauliform excretions not interfering with functions.

A DIAGNOSTIC SIGN OF FRACTURE OF THE FIBULA IN THE LOWER THIRD.

BY W. W. KEEN, M.D.,
Lecturer on Anatomy in the Philadelphia School of Anatomy.

FRACTURE of the fibula, from one to three or four inches above the malleolus, is a tolerably frequent accident. So far as my experience goes, external lateral displacement of the foot is by no means so common as is taught in many text-books. In four fractures of this bone in this situation I have had under my care in St. Mary's Hospital, and one in private practice, in the last three years, not one presented any displacement. Crepitus cannot always be elicited, for in three of these five cases it was absent; nor is marked preternatural mobility of the foot easily or always recognizable. When a patient, then, presents himself with this accident, and especially if the swelling is great, it is by no means easy to make a differential diagnosis between a fracture of the lower end of the fibula and a bad sprain of the ankle-joint. I desire, therefore, to recall the attention of the profession to a valuable sign of such fractures,—a sign which I find all the more recent writers on Surgery, and even on Fractures, except Malgaigne, have overlooked.

The anatomical relations of this joint are so peculiar that they can be made of service in assisting

FIG. 1.

FIG. 2.

the diagnosis. In the normal condition (Fig. 1) the astragalus (A) is mortised in between the malleoli so securely that no lateral movement of that bone is pos-

sible. When, however, a fracture of the fibula occurs above the malleolus, the ends of the fragments at the point of fracture approach the tibia, or by grasping the leg at this point can be made to approach the tibia, and thus the intermalleolar space is widened. (Fig. 2.) The result at once is that lateral movement of the astragalus becomes possible. In order to obtain it best, grasp the leg firmly with the left hand at the probable site of the fracture; grasp the foot with the right hand, the palm being applied to the sole and the thumb and fingers to the astragalus itself; then bring the astragalus next the fibular or external malleolus, and endeavor suddenly to strike it against the internal malleolus, which is firm and immobile. If there be a fracture, the impact of the bones will be readily felt in most instances. It could be obtained in four of the five cases above alluded to. One caution must be noted: the lateral movement of the tarsal bones, especially between the os calcis and the astragalus, and the os calcis and the cuboid, must not be mistaken for this lateral movement of the astragalus. The *astragalus* must be seized and moved laterally, and not the *foot* itself *twisted* internally. I give the following case in illustration of the use of the method.

E. C., æt. 53, fell on the ice Dec. 26, 1870, and caused an injury to the left leg above the ankle. There was no deformity and no crepitus. The leg was greatly swollen. Fracture of the fibula was suspected, but the diagnosis was not clear. His leg was placed in a fracture-box, and lead-water and laudanum were applied. At the time of injury he was intoxicated, and delirium tremens soon manifested itself; so that he removed the dressings, it was found, for several nights, and walked about the room. I first saw him January 1, and confirmed the symptoms mentioned, but made the decided diagnosis of fracture of the fibula by reason of the lateral movement of the astragalus, which was very distinct. The point of fracture was two inches above the malleolus. The leg was very much swollen, and erysipelas seemed imminent. I applied the silicate of soda immovable dressing, and ordered one-fourth of a grain of morphia, with twenty grains of chloral and three drops of tincture of aconite root, every three hours; the effect of the remedies to be carefully watched. He soon became quiet, and remained so. In three days the swelling subsided, so that the silicate of soda dressing had to be removed and a tighter one applied. This was kept on till just before his discharge, January 23. The inter-malleolar space was still slightly widened, but the joint was not stiff nor was the leg unstable. He walked as well as he ever did, and without support.

A MODIFICATION OF THE OPERATION FOR PHYMOSIS.

BY HARRISON ALLEN, M.D.,
One of the Surgeons to the Philadelphia Hospital.

THE modification proposed is based upon the truth of the following statements: 1. The glans penis lies obliquely backwards to the longitudinal axis of the penis. 2. Contraction of the preputial orifice, from chancres, scars, or other rarer conditions, may create phymosis independently of other causes; but, as a rule, acquired phymosis, particularly if it be complicated with venereal disease, is due to inflammatory thickening of the entire mucous layer. In such cases the glans is compressed, as with a rind, by a stiff, inelastic membrane. If there be much narrowing of the preputial chamber, the penis is jammed backwards in its sheath, and its frænum is made tense from a fixed point below, and lies obliquely upwards and backwards.

Writers have cautioned us, in selecting the method of Ricord, not to be guided by the outline of the glans penis as defined through the integument, else too much of the latter may be excised. But even when the operation is properly performed the incision imperfectly exposes the glans, thus making another incision through the mucous layer necessary. Besides this, the frænum is liable to mutilation by the first cut. This latter is an awkward occurrence, since union, under the best of circumstances, lingers about the frænum, and an undesirable bagginess of the integument at this point too often remains.

I have thus briefly indicated that the essential points of an operation for phymosis should be those that secure integrity of the frænum as well as exemption from too free incision of the skin-layer of the prepuce.

The method of meeting these points is simple. Having first slit up the prepuce upon a grooved director,—thus permitting the penis to assume its normal position to the sheath, and the true relations between it and the foreskin to be accurately determined,—the operator takes a straight needle, of moderate size, and, arming it with a single strand of well-annealed silver wire, transfixes both layers of the foreskin about a fourth of an inch in advance of the corona. Before pushing the needle through, that portion of the foreskin in front of the needle is snipped off with the scissors,—sufficient tissue being reserved to bring the edges together,—when a twisted suture is effected. The needle is next inserted at a point midway to the frænum, and the same procedure repeated as in the first instance. In consequence of the redundancy of the skin about the frænum, the division of the mucous layer is best effected at that point before that of the skin. The scalpel is better than the scissors for this purpose. The skin should be removed by the latter instrument after transfixion. Two sutures introduced upon the opposite side, in the manner already given, complete the operation. Should the spaces between the wires gape, they may be approximated by silk threads. These may be removed within twenty-four hours. The silver wires should be retained a day longer.

It will at once be seen that the retraction of the skin-layer is prevented by transfixing the two layers at the same point before the removal of the integument. This, indeed, is the gist of the whole matter. The slitting of the prepuce, instead of being a mere expedient to remove pressure from a threatened glans, or to explore for a concealed chancre,—uses to which it is commonly restricted,—becomes a stage of the operation of circumcision. Moreover, it enables the operator to dispense with the use of the fenestrated forceps.

This operation has been performed by myself and others fourteen times, and has given entire satisfaction in every instance.

THE IDENTITY OF PUS-CORPUSCLES AND LEUCOCYTES.

BY H. G. LANDIS, M.D.,
Niles, O.

IN the early part of November, 1871, while engaged in some studies of the blood, I noticed that my own abounded in white corpuscles to the extent of decided leucocythæmia, but paid little attention to the fact, so that I cannot state the exact proportions. A few days after, November 17, I found a boil on the back of my neck, which ran a painful course for two weeks. Before it had entirely healed, another appeared in close proximity, and remained for three weeks. I then began to inquire if the preceding excess of leucocytes in the blood had any connection with the subsequent collection of pus-cells. If this were true, *a priori* the leucocytes were drawn together and discharged by the furuncle, and further, being increased before, they should be diminished during the inflammation. Being

greatly occupied at the time, another large boil came on the neck unawares, being first noticed December 27. On the fourth day I examined my blood, drawing the supply in this and subsequent examinations from the middle finger of the left hand. The leucocytes were to the red corpuscles in the proportion of 1 to 600. On the eighth day this boil had finished its active career, and at the same time four small boils came on the neck, which on January 5 were apparently at their height. On this day, the white were to the red corpuscles in the proportion of 1 to 1000. On January 15 these four had almost disappeared, having suppurated very little, and the large boil had entirely healed; and on this day the proportions had risen to 1 to 300. On the 18th a small boil appeared, but did not suppurate, nor did it involve the subcutaneous tissues to any extent. On the 19th the proportion was 1 to 275. On January 24 the neck was tender, and two suspicious papules were felt; the leucocytes being in the proportion of 1 to 130. On the 27th three boils were evidently at work, and the whole neck was extremely sore, while the proportions had changed in three days to 1 to 500. By February 4 the boils had entirely and permanently disappeared, and the proportions were changed to 1 to 250. In this case, then, we have a suppurative inflammation preceded by leucocythæmia, and the changes in the blood so completely coinciding with the inflammatory processes as to leave little doubt that what were observed as white corpuscles in the blood afterwards escaped, and became, by virtue of this change of place, pus-corpuscles. I present this isolated case, in the hope that those having hospital facilities for the observation of acute inflammations may determine to what extent these changes may take place in different inflammations; and also as I believe it to be the first evidence drawn from the human subject which directly confirms Cohnheim's theory of suppuration.

NOTES OF HOSPITAL PRACTICE.

JEFFERSON MEDICAL COLLEGE.

SURGICAL CLINIC OF S. W. GROSS, M. D.

Reported by FRANK WOODBURY.

CARIES OF THE SPINE.

GENTLEMEN,—as this patient walks into the room, notice particularly the peculiarity in his gait. He moves hesitatingly and carefully, his body leaning a little forward and his head thrown back. This attitude is characteristic of the disease which is variously known as caries or tuberculosis of the spine, rachialgia, and Pott's disease. The last title, which is generally used, was given to it in honor of Mr. Percival Pott, who first carefully described the affection about the latter part of the last century. He investigated the subject more thoroughly than had been previously done, and brought the results of his researches, respecting the etiology and pathology of the disease and its proper treatment, before the notice of the profession. The correctness of his conclusions was subsequently proved by abundant experience, and their thoroughness and completeness were such that nothing of importance has been added to them by later observers.

This boy, although fifteen years of age, is poorly developed and has a pallid complexion. His eyes are large, with long lashes, and his general appearance is indicative of the strumous diathesis. On examining his back, we find a projection in the line of the spine opposite the lower borders of the scapulæ, and at the spinous process of the seventh dorsal vertebra, which is about the usual seat of the disease. This trouble was first noticed by the mother about six weeks before. She then observed that he leaned forward in walking; that he became easily tired; and when he stooped down, recovered the upright position with difficulty. He also complained of pain in the back, which led her to examine the spine, where she found the projection above mentioned. On pressing this, we find that it is tender, and by pushing the shoulders down we produce a sensation of pain. He also complains of pain in the back when he bends forward.

He states that he first noticed this pain in the back about six months ago. It would come on at intervals, and proceed along the ribs as if a cord were drawn around the chest. This pain was sub-acute in character, and was at times accompanied by a pain in the head and cramp in the stomach. It was irregular, coming on at different periods. He does not sleep well; he moans and is restless at night, waking up at times with a scream and a sensation of distress. (Please notice the similarity existing between these symptoms and those of hip-joint disease.) His appetite is good, except when the pains come on, which make him sick at his stomach. (Patient directed to wait in the other room.)

If a child is brought to you complaining of pain referred to the intercostal spaces, and the lungs and liver are found to be normal, you should have the patient stripped and carefully examine the spine. Especially are you justified in suspecting caries when he has cramps in the stomach, and wakes suddenly at night with pains,—more particularly where they extend around the body and produce nausea in the stomach. In scrofulous affections of the joints of the vertebræ, or of other joints in the body, the first symptom, generally, is pain. In incipient hip disease the pain is referred to the knee, which has been often rubbed and blistered for its relief. This pain elsewhere than at the seat of the disease is explained by the connection of nerves. The obturator nerve sends a branch to the round ligament which ramifies in the synovial membrane of the hip-joint. When this becomes inflamed, the sensation of pain is carried along the obturator nerve, and is referred to its point of distribution about the knee. This is also illustrated by the present case. The pain is referred to the sides of the chest, while the seat of the disease exists in the spine. This is due to the intimate connection between the sheaths of the nerves and the periosteum lining the intervertebral foramina through which the nerves pass. If there is inflammation of the periosteum of the seventh dorsal vertebra, there will be pain in the tract of distribution of the sixth dorsal nerve. This pain is a valuable symptom in determining the extent of the disease, as it will be unilateral or symmetrical, according as the disease is limited to one side of the vertebra or the entire width of the bone is involved. The pain and sudden waking at night are also easily explained. The adjoining surfaces of the vertebra and intervertebral cartilage are in a state of inflammation, and when they are forced in contact they produce pain. Some involuntary movement of the body during sleep produces pain: this sensation is reflected from the sensory to the motor nerves, and there is a strong contraction of the flexor muscles of the spine,—namely, the abdominal muscles,—and this brings the inflamed surfaces forcibly together, producing the severe pain and waking the patient. Pain by itself is of no value in determining the disease, but, when taken together with the other symptoms, it is a valuable diagnostic guide, especially in these joint affections. In caries of the atlo-axoid articulation there is pain in the head behind the ears, and in the extremities.

This is pre-eminently a scrofulous affection. But in saying this, I do not wish to be understood to declare that there must necessarily be a tuberculous deposit, as when bone is the seat of tubercular inflammation there may or may not be a deposit of this kind. In strumous ophthalmia, which is a tubercular inflammation, there is not necessarily tubercular material deposited in the eye. In ordinary simple or traumatic inflammation of bone, there is softening as the principal result, but in strumous inflammation the bone becomes very much enlarged by the dilatation of the canaliculi and Haversian canals. On section of a bone thus affected you will find a great increase of the cancellous structure, and the cells or spaces filled with a gelatinous material, or they may be the seat of true tubercular deposit. In caries of the spine this abnormal material is deposited either in the spongy structure of the vertebra; beneath, or in the substance of the periosteum; or in the intervertebral cartilage. This material finally becomes disintegrated and excites ulceration in the bone, which becomes

carious and even necrosed; as in this specimen on the table, from which I took several pieces of necrosed bone. In this other specimen the disease began in the inter-articular cartilage, which is destroyed, and the corresponding surfaces of bone eroded. The products of this inflammation form an abscess which frequently gravitates downward and receives the name of psoas or of lumbar abscess, according to whether it passes down in front of the psoas muscle and points in the groin, or passes backward and points in the lumbar region. In children, particularly when the collection is small, this matter is sometimes reabsorbed, while in adults we more frequently have the psoas and lumbar abscess following the vertebral disease.

The deformity is due to the destruction of the bodies of the vertebræ, and its degree will depend upon the extent of the disease. There being a direct loss of substance, the weight of the upper extremities forces the bodies of the adjacent vertebræ together; while the spinous processes of the vertebræ, whose bodies have disappeared, still remain intact, and being forced backward make the projection already noticed. It is to be understood that there may be considerable loss of intervertebral substance without producing appreciable deformity. The spinal column makes in its course three curves, and it is for this reason that when the disease occurs in the cervical or lumbar vertebræ it does not produce so much gibbosity as it does in the dorsal region, which is the most frequent seat of the disease.

At whatever point destructive inflammation is going on, there is always a circle of reparative inflammation surrounding it. Thus in the ordinary boil there is a deposit of plastic lymph to limit the disease. So in Pott's disease this reparative process accompanies the disease, and glues together the spinous and transverse processes of the vertebræ affected: this assumes the form of provisional callus; and, if undisturbed, will ossify, and bony ankylosis will take place. This is one way in which a cure results in this affection. The mass becomes strong enough to support the head and shoulders, although it will always remain a weak spot; and if the patient should be so unfortunate as to fall down-stairs, he would be very apt to break his back. This loss of mobility of several of the vertebræ is one of the diagnostic signs of the disease.

In the later stages of the affection you may have paralysis coming on as one of the results. This is not due to compression of the medulla spinalis by the angular curvature of the spine, but is produced by the extension of the inflammation to the meninges, or even to the cord itself. This complication occurs most frequently in adults; the disease itself being most common in children under ten years of age, and being evidently the result of a constitutional taint. The accidents that are sufficient to light up the disease, in children with the strumous diathesis, would produce little or no effect on a healthy child.

From the alteration of shape of the spine there must be a corresponding change in position of the lungs and heart, necessarily affecting their nutrition and the proper exercise of their functions. This is a predisposing cause to disease in these organs, and the subjects frequently die from consumption from this cause combined with the deposit of tubercle in the lungs, common in strumous affections.

The treatment of this disease is rest, absolute and positive rest, in the horizontal position, not leaving the bed at any time or under any consideration, using a fracture mattress or bed-pan. This must be continued for six, ten, or twelve months, or until the disease is arrested and the bones consolidated. At the end of six months, or when you think the cure is effected, you may examine the spine, and if there is any evidence of pain, either on pressure or on jumping from a chair, the patient must return to bed, and lie there two months at least before the examination is repeated. Some writers denounce this treatment, and say that the patient pines away for want of exercise. It is no such thing. The sufferer is relieved from pain, and he gets ruddy and fat, and soon becomes accustomed to the position, and prefers it. There are certain kinds of apparatus, designed to brace the shoulders and spine, and cure the disease, while the patient runs around. It is simply impossible to make a good cure in any other way than the treatment I have laid down; and if this is not strictly carried out, you should refuse to attend the case. You cannot expect to obviate the present deformity, but you can prevent the extension of the disease. It is to be cured by the union of the adjacent vertebræ and bony ankylosis; but if the spine is unfolded in the apparatus before described, the bones will be separated and held apart, and it will be impossible to get bony union. The great cause of ununited fracture in other bones is the want of perfect apposition.

The patient must have a hair or husk mattress that will give firm support to his back, and for this reason a feather bed must never be used. He must be kept in good condition by tonics and alteratives, and fed on plain food. Forbid meat, green fruits, sweetmeats, pastry, or candies.

Counter-irritation by the actual cautery or tincture of iodine is a valuable aid in the treatment of severe cases.

He is to go directly to bed, and take,—

℞ Tinct. ferri chloridi, f℥ij;
Tinct. nucis vomicæ, f℥iss;
Hydrarg. chlorid. corros., gr. 1-16. M.
Sig.—Twenty drops, three times daily.

℞ Ol. morrhuæ, f℥vj;
Potassii bromid., ℥ij. M.
Sig.—Two teaspoonfuls after each meal.

His body may be sponged frequently with water in which a moderate quantity of common salt has been dissolved.

WILLS OPHTHALMIC HOSPITAL.

SERVICE OF H. EARNEST GOODMAN, M.D.

Reported by CHARLES K. MILLS, M.D.

SIMULATION OF AMAUROSIS.

R. H., æt. 11, was brought to the hospital by his father, who said—the son confirming his statement—that eighteen months before, the latter had suddenly, and without assignable cause, become entirely blind in the right eye, the vision of the left eye remaining normal. The eye complained of had never been inflamed, and had a natural, healthy appearance. No ptosis, strabismus, or paralysis of the sphincter pupillæ could be discovered. The boy said that the eye pained him occasionally. On attempting to test his vision, he declared that he could not read any type placed before him, that he could not even count fingers held within a foot of his eye. He said that he could not make out the daylight clearly with the affected eye, but that there seemed to be a "smoky air" before it.

Before coming to the hospital, the patient had been in the hands of a self-styled "electrician," and the father asserted that the lost vision had been on several occasions completely, but only temporarily, restored by means of an electro-magnetic instrument; and in order to demonstrate the truth of this statement, he was allowed to apply one electrode of a small inductive apparatus over the boy's eye and the other to the back of his neck, as he had been in the habit of doing at his home. When the current had been passing for about half a minute, the patient, with the left eye closed, read with ease No. XX of Snellen's types, at twenty feet, showing a normal acuity of vision in the eye which just before had been apparently useless.

Ophthalmoscopic examinations, made both before and after the application of the electricity, had failed to reveal anything upon which to found a diagnosis.

The boy was sent home, and directed to return if his sight became again impaired. He came back in three days, stating that he had again gone totally blind in the right eye. The genuineness of this peculiar case of monocular amaurosis had been suspected from the first, and glass prisms, as recommended by Von Gräfe and Von Welz, were now resorted to, in order to settle positively the question of malingering.

A prism of 10°, with its base upwards, was placed before the left eye,—the one known to be healthy,—and the patient was asked carelessly, so as not to arouse his suspicions, to look at a light, a few feet off. He at once said that he saw two lights, proving simulation; for it follows from the principles of the refraction of light by transparent prisms, which bend light towards their bases, that, in order to have seen double, he must have used both eyes. The experiment was repeated, with the base of the prism downwards,—this also causing

diplopia. Placing a plain red glass before the apparently amaurotic eye, and retaining the prism before the other, two images of different colors were seen. When the prism, as advised by Von Welz, was set horizontally before the eye, it caused a corrective squint, and, on removing it, the optic axes, which had been in lines not coincident, at once became correspondent. To complete the demonstration of the simulation, the boy being entirely off his guard, still holding the prism before the eye acknowledged to be good, he was directed to read some fine print at a distance of about a foot, and, while reading, an opaque object was quietly and gradually pushed before the glass, until it was entirely covered, without interfering in the least with the reading.

This was a curious case of malingering. At some past time there may have been some real trouble with the boy's eye; but certainly when examined none could be made out. He had apparently no object in keeping up the deception. His father stated that he was fond of going to school; and also that once during vacation he had been brought from the country to the city, much against his will, because of his supposed loss of sight. It was found on inquiry in regard to the rest of the family that the child's mother had been blind in her right eye since a short time before his birth. Constantly observing and hearing of her misfortune may have had something to do with his hallucination.

SYPHILITIC IRITIS.

D. H., æt. 26, a printer, afforded a case which illustrated the great benefit to be derived from energetic treatment in the incipient stages of specific disease of the eye. He acknowledged having had gonorrhœa several times, but did not remember ever having been affected with chancre or bubo. His general health was good. One week before coming for treatment, his left eye, which had been subject for several months at irregular intervals to slight inflammatory attacks, began to trouble him again, and at the time of his appearance at the clinic showed signs of violent inflammation. He complained of frontal and deep-seated ocular pains. A commencing pinkish zone around the cornea, and the straightened character of the engorged blood-vessels, indicated sclerotitis. The iris was a little darker in color than in the unaffected eye. The post cervical glands were enlarged.

An eight-grain solution of sulphate of atropia was daily instilled. Two ounces of blood were taken from the left temple by the artificial leech. Ten grains of iodide of potassium and one-twelfth of a grain of the bichloride of mercury, three times daily, were prescribed. In one week, under this treatment, the patient got quite well; all pain and signs of inflammation having left the eye, and the enlargement of the glands having disappeared.

PANNUS.

B. V., æt. 14, four months before applying to the hospital, began to be troubled with his right eye, which watered, was intolerant of light, and a little painful; and although under treatment in the country, the eye had gradually been getting worse. The lids were found to be slightly granular. The ocular conjunctiva and subconjunctival tissue were injected. A well-marked vascular opacity of the cornea extended from its lower margin over the centre of the pupil, covering about one-third of the corneal expanse. An extension of granulations from the conjunctiva to the cornea had probably taken place. Yellowish nodules could be seen among the meshes of the blood-vessels. The patient complained of much photophobia, and of ocular and orbital pain. Vision in the affected eye was only quantitative; in the other it was normal.

Blood was at once taken from the right temple by the artificial leech; this operation being afterwards twice repeated. A solution of sulphate of atropia, four grains to the ounce, was instilled, and a solution of the same substance, two grains to the ounce, was ordered to be used daily. Nitrate of silver, two grains to the ounce, was applied to the lids every other day. Blue glasses were prescribed; quinine and iron were given internally; and good food and fresh air were enjoined. At the end of a week after the active inflammatory symptoms had subsided, the insufflation of calomel was commenced, and continued daily.

This patient remained under treatment six weeks. One acute exacerbation, lasting four or five days, occurred; but otherwise he steadily improved,—his vision coming up from the mere perception of light to $\frac{20}{4}$ Snellen, or two-fifths of the normal acuity. The conjunctivitis and corneal vascularity entirely disappeared; but a slight opacity was left near the centre of the cornea. It was necessary for him to return to his home in the country, and he was directed to continue the insufflation of calomel.

MIXED ANÆSTHESIA IN OBSTETRICS.—The effect produced by the new combination of morphia and chloroform, just now so extensively employed in France, is called by Claude Bernard a condition of *mixed anæsthesia*. In a note from Guibert presented by Claude Bernard to the Paris Academy (*Gaz. des Hôpitaux*, June 25, 1872), the method of its employment in obstetrics is reported as follows:

It is in cases of difficult labor that this analgesia may be induced with the happiest effects. It diminishes the pains in marked degree, and may be continued for several hours without incurring the least danger to the mother, without injuring the condition of the infant, without modifying uterine contractions to any extent, and without increasing the subsequent danger of hemorrhage.

I am in the habit of employing this method as follows: I make a subcutaneous injection into the forearm of about one ctgr. of chlorhydrate of morphia at the moment when the pains begin to be severe, or when agitation with anxiety and discouragement supervenes. A quarter of an hour after the injection I commence the inhalation of chloroform, by the ordinary method, at the beginning of a uterine contraction. So soon as a dozen inspirations have been made, the patient experiences, instead of an augmentation, an alleviation of the pain, while the contractions continue in force. I suspend the inhalations so soon as the pains are over, and again administer them on their recurrence. In this way I continue throughout the whole labor, administering chloroform only during contractions.

The state of agitation and anxiety is succeeded thus by a condition of calm and comfort, in a contrast which is heightened by expressions of the liveliest gratitude on the part of the patient. When the head has reached the perineum, and the moment of agony has arrived, there need be no fear nor hesitation to again inject, this time with one-half ctgr. morphia, which is sufficient now to render supportable—at times, indeed, to absolutely nullify—the atrocious pains of passage. The analgesia thus induced, moreover, diminishes in marked degree the extreme fatigue incident to severe labor.

I have notes of a case of pelvic version in a trunk-presentation, practised more than sixteen hours after the escape of the waters, executed with the greatest facility under this condition of analgesia, the mother being so far conscious all the time as to be able to answer all questions addressed to her, uttering neither cry nor complaint.

The combined action of chloroform and morphia completely dissipates that tetanic contraction which renders version in these conditions so difficult and painful.

This condition of analgesia without anæsthesia may be easily maintained, if the precaution be adopted to frequently interrupt the inhalations of chloroform.

In a case of mixed anæsthesia induced for an amputation of the breast, I observed a considerable reduction of the pulse. It fell gradually from 100 to 54 in the minute. There was not the least danger throughout. Half an hour after the operation, the pulse slowly increased to 80 per minute.

QUINIA AND DIGITALIS IN HEMICRANIA.—M. Debout (*The Practitioner*, February, 1872; from the *Journal de Médecine*) has obtained favorable results from the combination of quinia with digitalis in the treatment of migraine. The formula he employs is: sulphate of quinia, forty-six grains; powdered digitalis, twenty-two grains; syrup, q. s.; to be made into thirty pills, of which one is to be taken every evening. M. Gauchet states that he also has had frequent opportunities of treating hemicrania in this manner. In old-standing cases it is occasionally ineffectual. He obtained the best results in those cases where the attacks occurred at the menstrual periods.

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THURSDAY, AUGUST 15, 1872.

EDITORIAL.

THE INTERNATIONAL OPHTHALMOLOGICAL CONGRESS.

THIS meeting, to which several delegates have gone from this city, took place in the Hall of the Royal College of Physicians, Pall Mall, London, on the 1st, 2d, and 3d of the present month. The German Ophthalmological Society has joined in it, dispensing with its regular annual meeting at Heidelberg in September. It was at the last session of this society that Mr. Critchett, of London, suggested the idea of an International Congress.

The German society was the parent-stem of all the other European ophthalmological societies, and owed its existence to the personal influence of Von Graefe, whose friends used to take advantage of his annual visit to Heidelberg to meet him there. The purely social character of these reunions gave way to a more formal organization.

The following account of the meetings of the society is taken from a letter from a friend:

"I well remember the one I had the pleasure of attending, now four years ago. Probably forty members were present, comprising the most noted oculists of Europe. Graefe was not there. Several severe hemorrhages had so weakened him as to make absolute quiet indispensable, and in the country for weeks he had been endeavoring to regain his lost strength. The first act of the Society, on assembling, was to send a telegram to him expressive of the sorrow felt by all at his absence. In a few hours came the answer, in which, after greeting the Society, he went on to communicate some new observations he had been making during the last few days before his sickness. This was the last communication he ever sent to this Society. Renewed hemorrhages shortly ended the life of one so hard to spare.

"It is the custom of this Society to hold two sessions daily, the morning one lasting from ten o'clock A.M. until one P.M., at which time dinner is provided at the 'Hotel Schnieder,' where, at one long table, the members engage in most friendly intercourse. The afternoon session is from four to six o'clock; after which, supper is provided in the Old Castle Garden, pleasantly situated on the hill above the town. Here the evening is passed in chatting, smoking, and listening to the band of music.

"The second day is very much as the first. Each member is required to have a written statement of what he may wish to communicate for subsequent publication in the *Klinische Monatsblätter der Augenheilkunde.*

"The charm of this Society consists in the great friendliness and cordiality shown by the members to each other, making it to resemble very much a social gathering of friends; and perhaps a remark Dr. Pagenstecher made to me will convey the idea better than I can: 'During the entire year my thoughts are constantly turned to the 2d of September, when I make my trip to Heidelberg to be present at the meeting of the Society; and, as soon as it is over, I am looking forward with greater and greater longing to the time of the next one.'"

THE STOKES TRIAL.

AS a general rule, the medical profession appears to but small advantage in courts of law; but it seldom offers so sad an exhibition of petty personal malice and disgraceful wrangling as on the recent occasion of the trial of Edward S. Stokes for the murder of James Fisk, Jr., in New York.

According to the reports published in the daily papers, Dr. J. M. Carnochan, being called as a witness, took the opportunity to attack the character of Dr. Lewis A. Sayre, who had attended Fisk after the shooting, and who was called for the prosecution. Dr. Sayre, perhaps not unnaturally, but certainly at a great sacrifice of personal and professional dignity, retaliated with vigor when his chance came. Other medical witnesses gave testimony of a curiously conflicting character, and the upshot of the matter was that all the medical evidence was very properly thrown out, the question turning on the proof of the shooting being done in self-defence.

We can conceive of few graver or more responsible positions in which a man can find himself, than on the witness-stand, as a medical expert, in a trial for murder. Such was Dr. Carnochan's relation to the Stokes case; and yet he seems to have forgotten everything except the chance that offered itself for him to attempt to injure a rival practitioner.

The legitimate and inevitable result of such displays is that the whole medical profession loses in the public esteem, and quackery of all kinds must gain in proportion. They would be impossible, if medical men duly realized the dignity and importance of the trust confided to them as a body, and if each felt his own responsibility for the upholding and guarding of it.

HOUSE-COOLING.

THIS subject—the artificial lowering of the temperature of our dwellings during the intense heat of summer—has lately attracted much attention from writers in the daily and weekly papers. A correspondent of the Philadelphia *Press* says,—

"There is now in successful operation at No. 420 South Delaware Avenue, in the warehouse of the Messrs. Flanagan, a method of cooling or refrigeration which has been demonstrated to be of practical utility.

"It is cheap, as well as effectual for the purposes to which it is devoted, and may be applied with equal success to the

cooling of dwellings, hospitals, and sick-rooms. In fact, it is but reversing the present mode of heating, and instead of distributing caloric by means of pipes and registers through the different apartments of a house, to warm them, it is only required to drive currents of cold air from a body of ice by means of fans, and thus reduce the temperature at will to any degree required for comfort.

"At the warehouse above referred to, and at the Continental Hotel, for three years past, this method of refrigeration has been in constant and successful use. Meats, fruit, vegetables, and all other perishable articles of food, are kept indefinitely in prime condition. The atmosphere of these rooms is cold, pure, and dry as the air of Northern Minnesota in December. During this heated term we are now experiencing, the thermometer in these apartments has indicated a uniform temperature of 40°, whilst outside it has averaged almost 90°; and this has been accomplished with but a small consumption of ice in comparison with the ordinary style of refrigerators."

Our belief is that the desired end may be gained very cheaply, without so complicated and expensive arrangements as pipes and registers; especially as the extremely hot weather seldom lasts more than a few days at a time, and during the latter part of the summer the nights become quite comfortable. A very simple and inexpensive machinery would drive a fan, sending a current of air through a box containing ice, the whole fixed near the ceiling of the room to be cooled. Such an apparatus could be so arranged as to be taken down and put up with very little trouble. Experiment only could determine the degree of force and the quantity of ice required, the best position for the apparatus, and its exact cost.

AN ADMIRABLE CHARITY.

THERE is now in operation at Atlantic City an institution for sick children,—a sort of seaside appendage to our town hospitals. The plan, which we need not say had been already adopted in England, was talked of last year, and this summer, under the fostering care of Mr. James S. Whitney and others, has been carried into effect. The house is fitted up for the reception of sixteen children, the Children's Hospital being entitled to four beds constantly. It was opened, with eight inmates, on the 27th of June, and the number is now filled up. Each child is retained two weeks, or longer if specially provided for; the board charged is $4 per week. By arrangement with the railroad company the children are carried from town at the trifling cost of thirty-seven cents; seventy-five cents being charged for an attendant.

Dr. Franklin D. Castle, the physician in charge, may be applied to for the admission of patients either at his office, 247 North Fifth Street, from 11.30 A.M. to 1 P.M., or at the institution, corner of Pacific and South Carolina Avenues, Atlantic City, after 6 P.M.

Among the patients who have derived marked benefit were four cases of hip-joint disease, one of chorea, one of club-foot, one of necrosis of the tibia.

We need scarcely urge the claims of a charity of so obvious merit, but would say that, from personal inspection, we are satisfied that those in charge of it are faithful, earnest, and experienced. It is to be hoped that means will be furnished for enlarging its scope, so that its benefits may another year be extended to a larger number of suffering little ones.

CUNDURANGO.

IT was not the curing of cancer, but it was the obtaining of a profit of somewhere about 1900 per cent. ($38.00 per pound on an article costing not $2.00 per pound), that animated the advocates of cundurango. The bubble has, however, been pricked; and we presume that Messrs. Bliss & Keene, more in sorrow than in anger, watch the fading glories of their great specific. They are making a feeble stand, or some one is trying to do so for them, on its antisyphilitic powers; this will perhaps work off the stock they have on hand, but it will hardly do more.

One point of curious dissimilarity may be noticed between the medical history of this article and that of its analogue, sarsaparilla: viz., the comparatively short time required for the explosion of the claims of the former. The explanation is undoubtedly to be found in the free and constant reports of the results of experiment all over the world, which modern means of communication alone could render possible. Sarsaparilla held its own in country neighborhoods, retired towns, and remote places, long after it had been tried and found wanting at the great centres of medical science. Cundurango is known as a stupendous failure wherever it is known at all.

HEAT AND CRIME.

WITHOUT any exact statistics on the subject, it seems to us that the "heated term" each year brings with it a great increase, in the cities, of crimes of violence. And it is not very difficult to account for this fact, if such it be. Men are more thirsty, and they drink more; they are out on excursions of all sorts, where liquor is apt to pass freely; they and their families, driven by the heat and closeness of their homes into the open air, are brought into nearer contact with their neighbors, and quarrels are apt to arise.

But, besides these circumstances, there seems to be a tendency in long-continued heat to demoralize the population; the discomfort of the body and the relaxing and enervating influence of the atmosphere engendering an irritability which has shown itself not only in crimes by individuals, but in riots. The worst of these public disturbances within our recollection have occurred during the summer season.

THE property of the University of Pennsylvania, at the corner of Ninth and Chestnut Streets, has been selected as the site of the new Post Office building, which will necessitate an early removal of the Medical Department to West Philadelphia.

A CRITICISM ON DR. PEUGNET'S VIEWS IN REGARD TO VERATROIDIA AND VIRIDIA.

BY H. C. WOOD, JR., M.D.

IN the *Medical Record* of May 1, 1872, is an exceedingly interesting paper, by Dr. Eugene Peugnet, upon the alkaloids of veratrum viride and veratrum album. In the first portion of this paper the author gives an almost unique history of a case of poisoning by veratrum album, also various extracts from and discussion of the literature of the subject. It is, however, only of the original, experimental portion of the essay that I desire here to speak.

This part of the memoir the author commences as follows:

"Chemistry, by the experiments of Richardson and Scattergood, reveals that they possess one alkaloid in common, the veratroidia; by Simon, the existence in veratrum album of a second alkaloid, the jervina.

"Bullock's experiments establish the difference between veratroidia and veratria; also demonstrate the existence of a second alkaloid, the viridia in veratrum viride; whilst by mine it fully confirms the identity of the veratroidia in both, and further reveals that the jervina of Simon and viridia of Bullock are probably identical; also that the essential difference resides in their resin, and that the resin of veratrum album contains an active principle, not of basic origin, which does not exist in veratrum viride."

It has been hitherto held by nearly all chemists that the officinal veratria was identical with the alkaloid of veratrum album; and it is therefore much to be regretted that Dr. Peugnet did not speak more definitely as to the nature of the evidence upon which he relies. If he rests his decision upon chemical investigations, he should say so more plainly, and by all means give the distinctive tests.

Dr. Peugnet then details a number of experiments upon animals, which he considers conclusive as showing the identity of the two alkaloids of veratrum album and veratrum viride. These experiments do not seem to me, however, sufficient to prove such identity. There are a number of the so-called heart-alkaloids whose actions are very similar, and yet, when closely examined, quite diverse. In the nine experiments detailed there is no sufficient balancing or equality of conditions to allow a decision as to the relative strengths of the two alkaloids (veratroidia alba and veratroidia viridis). Further, no symptoms were noted except the grosser and more apparent ones, and yet there seem to be differences in the results of the poisoning by the two alkaloids. Thus, veratroidia alba in most of the records is spoken of as freely purging, and also as causing salivation, whilst no such symptoms are anywhere detailed as having been caused by veratroidia viridis.

In order to establish identity of alkaloids through physiological experimentation, the latter must certainly be much more thorough than the work detailed. Whether the assertion of Dr. Peugnet that these alkaloids are identical be or be not correct, he certainly fails to establish its truth.

A most curious blunder occurs in this connection, where I am made to prove that the "peculiar action on the alimentary canal is through the pneumogastric nerve; for there was no vomiting and purging, except in the animals in which he had not divided the pneumogastrics." Every reader of the *American Journal of the Medical Sciences* knows that I published in it some months since an elaborate series of experiments which absolutely disprove such deductions.

Dr. Peugnet next details a number of experiments with viridia, from which he deduces the following conclusions:

"As to its action on the circulation, the results were almost if not entirely imperceptible; it had a slight action on the respiration, but its action was more decided on the temperature; however, none sufficiently pronounced to warrant its recommendation as a therapeutical agent.

"Its action may be summed as follows:

"I. It is not locally irritant.

"II. It has no decided action on the alimentary canal.

"III. It exerts no direct influence on the brain; although there is occasionally a slight contraction of the pupil.

"IV. It is not a spinal motor depressant, but a spinal motor excitant; in large doses producing on animals effects similar to small doses of strychnine."

Of these conclusions, those which differ from my own are as to the action of the drug on the circulation and spinal nervous system. In regard to the latter, there is no doubt but that Dr. Peugnet and myself both witnessed the same phenomenon,—one interpreting it as the result of sedation, the other of stimulation.

I cannot perceive any reason for altering my views formerly expressed; nor can I understand on what grounds Dr. Peugnet insists that the convulsions of viridia-poisoning are from over-stimulation, whilst those caused by veratroidia are from sedation: they being both accompanied with marked paralysis, and also very similar in all their concomitants.

In regard to the circulation the matter is not so clear, for in Dr. Peugnet's experiments there was apparently no slowing of the pulse. I can only say that the experiments were few in number, that in most of them there are records of violent convulsions and other evidences of reasons for increase of the pulse-rate, and that in no case was a close study of the circulation made, the doctor not using the cardiometer.

In order to account for the marked depression of the circulation witnessed in my experiments on viridia, Dr. Peugnet assumes that the viridia I used was contaminated with veratroidia, from which it obtained its sedative powers. It appears, however, easy to disprove this by his own statements and admissions. Thus, he says,—

"Scattergood, Percy, and Oulmont found that the exhausted resin of veratrum viride possessed a greater sedative action than the veratroidia. Percy called it resinoid, because he thought that it was a complex body, containing a distinct alkaloid. Wood, also, found that the viridia of Bullock possessed a similar power."

Here there is a series of authorities all agreeing that even viridia much contaminated with inert resin is

much more of a circulatory sedative than veratroidia; from whence it follows that Dr. Peugnet's conclusion is incorrect, unless we agree that the less is more than the greater.

There can be no doubt but veratrum album and veratrum viride are very different in their action upon man and animals; and Dr. Peugnet believes that the difference is due to the resinoid of veratrum album, to which he attributes the characteristic effect of the latter plant upon the alimentary canal. In his experiments with the resinoid it certainly did act powerfully both upon the alimentary canal and the nervous system; but the long experience with the resinoid of veratrum viride should surely lead to caution in the judgment that the resinoid (veratrum album) which he used was free from alkaloidal principle.

CORRESPONDENCE.

To the Editor of the Philadelphia Medical Times.

DEAR SIR,—The remarks in your last issue in regard to the public baths struck me as appropriate and well-timed. I would, however, go still further, and urge that the city authorities, in forbidding the use of the rivers for swimming purposes, have cut off the only chance of many of our boys, who cannot afford to get tickets to the Natatorium, for learning or practising that most useful and valuable exercise, with all its hygienic bearings.

Why could not certain limits be set, within which it should be unlawful for men or boys to swim? or certain hours? So impressed am I with the importance of a knowledge of swimming, that I should be in favor of public instruction in that art, even if my already heavy taxes were increased to pay for it.

I am, etc., N. R. D.

Philadelphia, August 10, 1872.

PROCEEDINGS OF SOCIETIES.

AMERICAN OTOLOGICAL SOCIETY.

THE fifth annual meeting of the Society was held at the Ocean House, Newport, R. I., on Wednesday, July 17, at 11¼ o'clock.

In the absence of the President, Dr. Morland was chosen Chairman.

Present—Drs. W. W. Morland, of Boston; Frank W. Abbott, of Buffalo; H. L. Shaw, of Boston; O. D. Pomeroy, of New York; C. J. Blake, of Boston; J. Orne Green, of Boston.

Drs. J. Solis Cohen, Charles H. Burnett, and Geo. Strawbridge, of Philadelphia, were elected members; and Drs. Cohen and Burnett took their seats.

The Chair appointed Drs. Pomeroy, Abbott, and Shaw as an Executive Committee.

The Treasurer's report was read and accepted.

Notice was given of a proposed amendment to the first Section of the By-Laws.

The Executive Committee reported the following bulletin of communications, which were read in order and referred to the Publishing Committee:

1. Report on the Progress of Otology. Dr. C. J. Blake, of Boston.

2. Accidental Evulsion of the Membrana Tympani and Ossicles of Hearing. Dr. C. H. Burnett, of Philadelphia.

3. Clinical Contributions: Otitis Media Hæmorrhagica. Dr. D. B. St. J. Roosa, of New York.

4. Peculiar Case of Impacted Cerumen. Dr. Roosa, of New York.

5. The Examination of One Hundred Cases of Impacted Cerumen, with a View of Determining its Pathological Indications. Dr. O. D. Pomeroy, of New York.

6. A Case presenting a Mastoid Sequestrum. Dr. O. D. Pomeroy, of New York.

7. A Faucial Eustachian Catheter. Dr. O. D. Pomeroy, of New York.

8. Perception of High Musical Notes. Dr. C. J. Blake, of Boston.

9. A Case of Caries of the Meatus. Dr. C. J. Blake, of Boston.

10. A Middle Ear Minor. Dr. C. J. Blake, of Boston.

Verbal Communications.

11. Remarks on a Late Publication in which Corpulence is considered a Cause of Deafness. Dr. W. W. Morland, of Boston.

12. Cases of Injury to the Ear from External Violence: six of Injury from Explosions, three of Injury from Blows, two of Injury from Attempted Removal of Foreign Bodies.

Notice was given of a proposed amendment to the fourth Section of the By-Laws.

After the reading of the eighth paper the Society adjourned, at 2¾ o'clock.

Second Session.—Agreeably to adjournment, the Society met at 4½ o'clock, and the minutes of the first session were read and approved.

The reading of the papers was then concluded.

The following officers were duly elected for the ensuing year:

President, H. D. Noyes, M.D.
Vice-President, E. L. Holmes, M.D.
Secretary and Treasurer, J. Orne Green, M.D.
Publishing Committee, Charles E. Hackley, M.D., R. F. Weir, M.D.
Com. on Progress of Otology, C. H. Burnett, M.D.

The amendment to the first Section of the By-Laws proposed at the first session was then adopted, and three was substituted for five as the number to compose the Committee on Nominations.

The other amendment proposed at the first session was then adopted, viz.: at the end of the first paragraph of the fourth Section these words were inserted: "And any member neglecting to pay the annual assessments for three years shall be considered to have forfeited his membership."

The same rules in regard to assessments, the revision of proofs, and adjournment, were adopted as last year.

The minutes of this session were read and approved, and the Society adjourned at 6¼ o'clock, P.M.

J. Orne Green, *Secretary.*

REVIEWS AND BOOK NOTICES.

A Treatise on Diseases of the Bones. By Thos. M Markoe, M.D., Surgeon to the New York Hospital, etc., etc. New York: D. Appleton & Co., 1872. Pp. viii., 413.

Dr. Markoe has been surgeon to the old New York Hospital—now, alas, no more!—for twenty years. He dedicates his volume to his colleagues; and a rare set of professional men they must have been, and must be, since all that score of years, though "illustrated by a thousand tokens of friendship and confidence," were "unmarred by a single cloud of estrangement, unbroken by a single hour of distrust."

The book is divided into three sections: 1. Ordinary diseases of bones; 2. Tumors; and 3. Malignant diseases. To the first part, about one-half, of the book is given a prominence, growing out of the natural relative frequency of such disorders. No one can read Dr. Markoe's descriptions of the pathology and symptoms of the various diseases he is called upon to treat of without seeing that he has been a close observer and diligent student. As a prominent example we may quote the chap-

ter on "Chronic Sinuous Abscess of Bone" (pp 33–45), and especially the differential diagnosis between this affection and necrosis, and its treatment. Common sense and professional (*i.e.* educated) sense mark every line. So, too, in the treatment of osteo-myelitis, his opposition to Mr. Longmore's views of the pathology and dilatory treatment of this formidable disease we believe to be eminently just.

Judging from his chapter on Rickets, it is to be presumed that he had not seen the valuable papers of Dr. Parry (*Amer. Jour. Med. Sci.*, Jan. and April, 1872) on this disease. But as his preface is dated March 6th, it is entirely a pardonable oversight, especially as to the later paper. Had his attention been called to it, we suspect he would have had reason to confirm Dr. Parry's conclusions as to the much greater frequency of rickets in this country than has been heretofore believed.

While we do not notice anything that is particularly original in the book, either in the scientific or practical portions, we can particularly commend it as eminently careful and sound. The most modern views are evidently familiar to the author; he has gathered his knowledge from many quarters, and contributed freely of his own large experience.

We notice among the engravings—which, by the way, are particularly good—very many from specimens in the New York Hospital museum. We hope it may impress upon the officers of some of our younger hospitals the propriety of beginning at once to form museums of both medical and surgical specimens and photographs, rather than let them be dispersed, and in many cases lost, by their being taken by the members of the staff. Among so many good drawings we were sorry to miss the admirable diagrams of necrosis given by Billroth, which could have been well substituted for figs. 20 and 21. No one could recognize Fergusson's lion-forceps in fig. 88. We would call attention, on p. 332, to an admirable saw devised by Dr. Goodwillie for resection of the jaw without external incision. We observe also that the description of the minute changes in caries (pp. 100, 101) from Barwell, is illustrated apparently by a drawing from Billroth, whose drawing illustrates in the original a very different pathological view of caries. Dr. Markoe's style is in general so good, that it is with regret we see *pubis* written for *pubes* twice on a single page (64).

HISTORICAL STEPS OF MODERN MEDICINE. By HENRY DAY, M.D. An Address delivered at the Annual Meeting of the St. Andrew's Medical Graduates' Association, 1872. Pp. 23.

The author of this brief but interesting address succeeded Dr. B. W. Richardson as presiding officer of the Association of St. Andrew's Graduates. He is or should be well known to our readers as the author of a recent volume of "Clinical Histories," which are refreshing not less for the pleasant style in which they are stated than for the originality and thoughtfulness of the writer's comments. As a provincial physician of the highest reputation, Dr. Day's studies have naturally been rather at the bedside than in the laboratory, and it will therefore repay us to see what a man so placed looks upon as "Historical Steps"—that is, true advances—in medicine, secured in our own time. It is to be remembered that he does not present under this heading only what are accepted gains, but such as—whether fully recognized or not—seem to him to be the most truly valuable. In tracing his record we must of necessity be brief.

He puts first, as a clear modern gain, the great structure of normal and morbid histology, as to which there need be no dispute. His next would have presented itself to but few medical men, and yet, in speaking of animal dialysis as of vast value, he is no doubt correct. In a terse sentence or two he sums up Graham's discoveries, and points out that it is impossible to study to-day any function, either in health or disease, without regard to the colloids and crystalloids. As yet we have benefited little by the principles which Graham so suddenly threw into the older physiology. They are in truth too all-embracing and too startling to have been fully used as they must soon come to be.

After an honest sigh over the present state of nomenclature, and for the good time when we shall name diseases from their causes, he takes up for commendation the "study of disease by synthesis" as altogether modern. The triumphs in this direction, like the similar victories in the laboratory of the chemist, have indeed been few, nor is the profession fully satisfied as to the most of such as are claimed. These are Dr. Day's examples: 1. The neurotic origin of diabetes; 2. The synthesis of cataract in one of its forms, the diabetic. As to this latter, we are sorry to say that no one has yet proved whether in diabetes the clouding of the lens is due to sugar directly or to the trophic disorders of the disease. This awaits in man one simple experiment: if the lens be opaque owing to sugar, when removed and plunged into water it will become transparent. 3. The series of discoveries as to epilepsy induced by section of nerves, etc. As concerns these, while important, they are really only steps toward much larger discoveries. We have some doubt, indeed, as to the true epileptoid nature of the attacks in animals described as such, especially since they fail of being produced in the higher quadrupeds. Dr. Day's beliefs as to the value of the modern views in regard to uræmic poisoning, or the knowledge of it, as a well-won modern advance, will scarcely be fully admitted by physicians, who feel that just now the whole subject of uræmia as a cause of convulsions is in a state of unpleasant confusion.

As to the value of the discoveries in regard to the function of the sympathetic, no one will differ with our author; but we are unwilling to admit with him that mere division of this nerve may create inflammation. Dr. Day has next some interesting remarks as to the temporary simulation of functional disorders brought about by nitrite of amyl, ozone, and the inhalation of dry oxygen, and then considers the lactic acid production of endocarditis. He points out that, while the chemical theory of rheumatism has failed, there is a probability that the acids generated owing to the disease may be the true parents of the heart-trouble. Like many others, Dr. Day is coming back to the neural origin of rheumatism, which was first advocated by the late Prof. John K. Mitchell.

The modern use of instruments of precision Dr. Day thinks a great advance; and so it is. The accuracy and confidence which the thermometer, laryngoscope, and ophthalmoscope, with the aids from chemical method, galvanism, etc., have brought into medicine, are but the small promise of what the future of a hundred years may bring about; and we fancy, indeed, that it will be worth while to return hither, to stand at the side of a physician in the year 1976, when they are having a second centennial, and see how he will go about making a diagnosis.

We have left ourselves no space to speak of what Dr. Day thinks are the true advances in surgery; curiously enough, although a doctor, and a good one, he has hardly a word to say as to modern therapeutics.

Dr. Day's address is to begin the new volume of St. Andrew's Medical Graduates' Proceedings,—always a pleasant group of thoughtful papers; but these and the many hospital reports make the scholar a little cross at this vast multiplication of books, and he longs for the time when everything shall be put into the journals, and he shall cease to be told, Ah! my dear fellow, in that last essay of yours you have failed to mention Jones' paper in the first volume of the Pekin Hospital Reports!

A SYSTEM OF SURGERY. By SAMUEL D. GROSS, M.D., LL.D., D.C.L. Oxon., Prof. of Surgery in the Jefferson Medical College, etc. Fifth edition. Philadelphia, H. C. Lea, 1872. 2 vols.: pp. xxviii., 1098; and xxviii., 1170.

No event could have more fitly followed the graceful honor of his Oxford degree than the appearance of the two splendid volumes of the fifth edition of Prof. Gross' well-known and widely-appreciated "System of Surgery." To the hundreds of students and practitioners who have made it the "man of their counsel" in many a trying emergency for years past, it is no slight praise to say that it is greatly improved as well as enlarged. In fact, in many respects the present edition is a new book. Every chapter has been revised. Nearly 450 pages of new matter—a respectable book of itself—has been added, together with many new illustrations; yet the price has not been raised.

The most important change that we have observed in looking over the work is the frank acceptance of the new pathological views on inflammation, on thrombosis and embolism, and on morbid growths. The student will find Cohnheim's discovery of but five years ago, with all its consequences, ac-

cepted and explained at length, together with the results of the labors of Stricker, Von Recklinghausen, Rindfleisch, Waldeyer, Virchow, and many others of that great German school of pathologists, who have overwhelmed the scientific world no less by the brilliancy than by the rapidity of their discoveries. The only defect, we think, is that in the chapter on inflammation the treatment is so entirely didactic. A difficult subject like this needs illustration, and a judicious selection—say from Billroth, Stricker, Rindfleisch, and others—would have facilitated the comprehension of the text, especially to the student.

We notice also the addition of a good, though brief, chapter on railway injuries.

The occurrence of vaccinal syphilis is accepted as an established fact.

In discussing the introduction of air into the veins as a cause of death, we observe an apparent oversight of the important researches of Robin, and especially of the monograph of Feltz of Strasburg. They have proved that the heart can and will contract when distended with any liquid or gas, and that death is due undoubtedly to capillary embolism of the pulmonary circulation by the small air globules.

The chapter on the eye shows also the able hand of Dr. Thomson, who has revised it and has added a section on refraction and accommodation. We observe that the fig. (143) of his own valuable optometer is incorrect, one of the holes at (4) being omitted.

A number of valuable illustrations from the Surgeon-General's reports are added.

Among the omissions we notice that no mention is made of the use of the hypodermic syringe by suction, instead of an exploring needle. Among errors, Kidder's batteries are spoken of as Skidder's (i. 478), and Gaiffe's battery as a "chloride of silver battery" instead of "bisulphate of mercury." Moreover, no mention is made of the best batteries yet made in this country, viz., those of Drescher and of the Galvano-Faradic Company.

But these are trifling faults. The work is a magnificent monument of patient, assiduous labor and of a mind comprehensive yet minute; a glory to American surgery; an inheritance to American students.

BOOKS AND PAMPHLETS RECEIVED.

A Manual of Qualitative Analysis. By Robert Galloway, F.C.S., Professor of Applied Chemistry in the Royal College of Science for Ireland, Author of "The Second Step in Chemistry," "The First Step in Chemistry," etc. From the Fifth Rewritten and Enlarged London Edition. With Illustrations. Small 8vo, pp. 402. Philadelphia, Henry C. Lea, 1872.

Thermic Fever, or Sunstroke. By Horatio C. Wood, Jr., M.D., Professor of Medical Botany and Clinical Lecturer on Diseases of the Nervous System in the University of Pennsylvania; Physician to the Philadelphia Hospital. Boylston Prize Essay. 12mo, pp. 128. Philadelphia, J. B. Lippincott & Co., 1872.

Diseases of the Throat: a Guide to the Diagnosis and Treatment of Affections of the Pharynx, Œsophagus, Trachea, Larynx, and Nares. By J. Solis Cohen, M.D., Lecturer on Laryngoscopy and Diseases of the Throat and Chest, in Jefferson Medical College, Philadelphia; Mütter Lecturer before the College of Physicians, Philadelphia; etc. etc. With 133 Illustrations on Wood. 8vo, pp. 582. New York, William Wood & Co., 1872.

The Physiology of Man; designed to represent the Existing State of Physiological Science, as applied to the Functions of the Human Body. By Austin Flint, Jr., M.D., Professor of Physiology and Physiological Anatomy in the Bellevue Hospital Medical College, New York; Attending Physician to the Bellevue Hospital; Consulting Physician for the Class of Nervous Diseases to the Bureau of Medical and Surgical Relief for Out-door Poor, Bellevue Hospital; Fellow of the New York Academy of Medicine; Member of the Medical Society of the County of New York, etc. etc. Nervous System. 8vo, pp. 470. New York, D. Appleton & Co., 549 and 551 Broadway, 1872.

Address before the American Medical Association, Philadelphia, May 7, 1872. By David W. Yandell, M.D., President. 8vo, pp. 29. Louisville, John P. Morton & Co., 1872.

Annual Address delivered before the Medical Association of Central New York, June 18, 1872, by the President, B. L. Hovey, M.D., of Rochester; and An Essay on Asiatic Cholera, by W. S. Ely, M.D., of Rochester. 8vo. pp. 12. Rochester, Erastus Darrow, 1872.

GLEANINGS FROM OUR EXCHANGES.

Carbolic Acid Preparations.—The preparations of this acid (*Druggist's Circular and Chemical Gazette*, May, 1872) have been employed with satisfaction in almost every country by individuals and governments for purposes of disinfection and medicinal use. It would hardly be worth while to say anything in favor of carbolic acid, the properties of which are so well known, and the varied purposes to which it may be put are increasing daily; yet we may properly mention that its useful application is largely due to the efforts of C. Calvert & Co., who were among the first to prepare it, and who, after years of experiments, succeeded in producing as pure a carbolic acid as we may ever hope to see,—that is to say, an acid almost odorless, and in solution almost tasteless. Many of these preparations are imported into this country, and we will, for the convenience of druggists, shortly enumerate them.

There are five brands of this acid in the market, three being solid and two fluid, which are designated as acid number *one*, *two*, *three*, *four*, and *five*, and are distinguished from each other by differently shaped and colored bottles and labels. *One* and *two* have been evidently filled into the bottles while hot, and have crystallized on cooling; but *three* consists of crystals produced in different vessels and afterwards filled into the bottles. A *sixth* preparation, containing one part of the best medicinal acid to twenty parts of water, completes the list.

1. *Carbolic Acid No.* 1, *for Medicinal Use* (*internal*).—This acid fuses at 41° C., is soluble in twenty parts of water, nearly tasteless and odorless; it is free from water, cresylic alcohol and other phenols, and may be considered chemically pure. This acid is contained in flat white bottles, with a label printed in gilded letters.

This acid is also sold in the liquid form, containing one part of water to nine of acid, and may practically be considered as of the same strength as the crystallized acid.

2. *Carbolic Acid No.* 2, *for Medicinal Use* (*external*).—This acid is found in the same-shaped bottles as the former, but which have a bluish tint; it is also nearly pure, containing only a trace of cresylic alcohol, and in addition 2.6 per cent. of water. The labels on the bottles are printed in black. The acid melts at 34° C., and dissolves in 25 parts of water. It is completely soluble in glycerine, and this solution has been successfully employed for carbuncles, etc.: one part of acid to fifteen of olive oil may also be used.

3. *Carbolic Acid No.* 3, *for Disinfecting Purposes.*—This acid is contained in square blue bottles. It is employed altogether for disinfecting purposes, and contains about 5.5 per cent. of water, 2.3 cresylic alcohol and other phenols, and 92.2 per cent. of carbolic acid; it is soluble in from 40 to 50 parts of water.

4. *Fluid Carbolic Acid No.* 4.—This acid is contained in dark-blue bottles, and is employed for out-door disinfecting purposes, as, with the cheaper price, strength and quality decrease, and the odor especially becomes noticeable and objectionable.

5. *Fluid Carbolic Acid No.* 5.—This acid is sold in the same-shaped but lighter-colored bottles as the preceding one; its odor is stronger than that of No. 4 acid, and it is employed for disinfecting sewers, dunghills, water-closets, and such like places. The uses and methods of employing one and all of

these preparations are always found printed on the label of the bottle; the two latter preparations contain about 88 per cent. of impure carbolic acid.

6. *Solution of best Medicinal Carbolic Acid.*—This solution, mentioned before, contains one part of the purest acid to twenty parts of water. The bottle is the same as that of No. 1 acid, but the label is printed in black. It is recommended for external use in ulcers, as a gargle, a wash for the mouth, and for internal use in scarlet fevers, typhoid fevers, and choleraic diarrhœa.

Carbolic acid No. 4 and 5 is recommended for disinfecting purposes; one part of the acid may be mixed with forty parts of wet sand, and the mixture exposed in hospital-wards and sick-rooms; or one part of the acid dissolved in one hundred parts of water, to sprinkle floors with, and all other places it is desirable to disinfect.

LACTIC ACID IN DIABETES.—Dr. George William Balfour, in a paper read before the Medico-Chirurgical Society of Edinburgh (*Edinburgh Medical Journal*, December, 1871), calls attention to some observations of Professor Cantani, of Naples, on the use of lactic acid in diabetes, and reports seven cases of this disease in which he has employed it. Prof. Cantani believes that in diabetes the question is not so much one of increased production as of defective combustion of sugar; and this defective combustion, he thinks, depends upon the production of a morbid form of glucose, which he terms paraglucose. This is incapable of being transformed into lactic acid, and therefore cannot be burned, but is passed unchanged in the urine. The consequence is that the heat of the body must be maintained at first by the combustion of the albuminates and fats, and later in the disease by that of the patient's own tissues. He, in common with many modern pathologists, recognizes the liver as the organ mainly at fault in diabetes; and his treatment is partly directed towards giving it as complete a rest as possible by depriving it of its pabulum, which is accomplished by subjecting the patient to a rigorous meat-diet, thus reducing to a minimum the introduction into the system of sugar-producing substances, and partly towards arresting the waste and ultimate complete degradation of the body, by supplying a combustible agent in a quantity sufficient for the wants of the body, so that the fats may continue to be stored, and the body thus gradually brought back to its normal standard; and he hopes that this restoration of the healthy standard of the constitution, coupled with the prolonged functional rest to the organ affected, may suffice to prevent any relapse into its morbid condition, even after a return to the ordinary dietetic conditions of modern civilized life.

The combustible agent which Cantani has selected is lactic acid; and this he administers in doses of from 70 to 150 grains daily, diluted in from eight to ten fluidounces of water. An exclusive meat-diet is insisted upon; for drink he allows water, either plain or with a little of the purest alcohol; coffee, tea, and wine being prohibited.

His results have been somewhat surprising. In recent cases the cure is stated to be almost certain, and speedy; and even where an exclusive meat-diet is not persisted in, life is apparently prolonged, and many of the unfavorable results of diabetes are prevented, though the meliturla is not arrested. The success which has been claimed for the treatment in which skim-milk is the exclusive article of diet is readily understood when we reflect that milk contains from three to six per cent. of lactin, which, under the influence of the caseous matter, becomes transformed into lactic acid.

PATHOLOGY OF ŒDEMA.—The *British Medical Journal* of June 15 (*The Boston Medical and Surgical Journal*, July 11) has an article upon the pathology of œdema. It states that the influence of the nervous system over the production, as well as the removal and inhibition, of dropsies, was pointed out by Dr. Laycock, of Edinburgh, six years ago. His conclusions, drawn from clinical experience, have been confirmed by Ranvier and Goltz. Those of the former show how the nervous system may permit œdema to occur by allowing an excess of fluid to exude from the blood-vessels into the tissues; those of the latter explain the occurrence of œdema from insufficient absorption. The theory that œdema is due solely to venous obstruction is derived mostly from two experiments made by Lower about the year 1680. In one of these he found ascites to be produced by tying the vena cava within the thorax of a dog; and, in the other, that ligature of both jugulars was followed by œdema of the parts above the ligature, and by increased tears and saliva. This theory received the support of Bouillaud in 1823, who described cases of local œdema resulting from thrombosis, and attributed its occurrence to clots in the interior of the veins preventing them from performing their absorbent function.

Ranvier obtained very different results from the repetition of Lower's experiments. Neither ligature of the jugulars nor of the femoral was followed by œdema. On tying the inferior cava, taking care not to injure or include the nerves, both legs became cold, but no œdema resulted. If, however, one of the sciatic nerves—which Bernard has shown to contain the vaso-motor nerves of the leg—was then cut, the cutaneous vessels of that leg dilated, the color of the limb became rosy, and it felt hot instead of remaining cold like the other. Within an hour œdema was noticed about the tendo-Achillis, and in twenty hours the leg had become intensely swollen. To show that this effect was due to division of the vaso-motor nerves of the leg, and not to the paralysis consequent on the division of the motor fibres of the sciatic, the experimenter divided the latter class of nerves and left the vaso-motor unharmed. There resulted complete paralysis of the leg, but no œdema occurred. These experiments seem to show that venous congestion alone is not sufficient to produce œdema. The experiments of Goltz, now to be mentioned, support the view that the œdema which followed the section of the nerve was due to an unusual amount of fluid being poured out from the dilated vessels.

Goltz rendered two frogs motionless by poisoning them with curare, and then destroyed the brain and spinal cord of one, while he left those of the other unharmed. He then injected a solution of common salt into the lymph-sac of each, and found that from the divided aorta of the one whose brain and spinal cord had been destroyed not a drop of fluid fell, though the hearts of both continued to beat, while from the other at first pure blood, then diluted blood, and at last a colorless fluid, flowed, and that just in proportion as the fluid which trickled from the aorta filled the vessel which was placed to collect it did that in the lymph-sac diminish. Having thus shown that destruction of the nervous system arrests absorption, he also found that when the nervous centres were stimulated the rapidity of absorption was much increased.

In some additional experiments, he found that destruction of the nervous system allows fluid to exude more easily from the vessels, as well as hinders its absorption into them. This result coincides with those attained by Ranvier.

"The absence of œdema in one person and its presence in another, without any difference in the amount of venous congestion in the cases, as well as its occasional occurrence in an individual without any increase in the congestion being perceptible, are readily explicable in the light of the facts proved by Ranvier and Goltz, that congestion alone does not produce œdema as long as the vaso-motor, or rather absorbent, nerves are active, but does so as soon as their power is lessened or destroyed." The retention of urinary products in the blood is a source of irritation to the vaso-motor centres, and in cases of renal disease where this retention occurs we might predict, what clinical experience shows to be true, that œdema would not occur. "We should also expect that the application of any irritation to the vaso-motor centre, such as might be produced by pressure, would cause the absorption of dropsical fluid already effused; and this centre being situated within the cranium, the concurrence of cerebral symptoms with the disappearance of œdema thus becomes readily intelligible."

CEREBRO-SPINAL MENINGITIS.—Dr. Borland, in the *Boston Medical and Surgical Journal*, reports a successful result in a very severe case of this disease, in which the treatment consisted mainly of fluid extract of ergot, with bromide of potassium in full doses, nourishment, and stimulating fomentations. On the eighth day a purge of calomel and jalap was given. The ergot and bromide were stopped on the twentieth day, and quinine substituted. On the twenty-sixth day the quinine was omitted, and he was put on the syrup of the hypophosphites of lime, soda, potash, and iron.

Dr. N. S. Davis, of Chicago (*N. Y. Medical Record*, July 15; from *Chicago Med. Examiner*), uses in this disease the

Calabar bean, either with or without the addition of ergot. He believes that such remedial agents as have the power to diminish excitability, and at the same time to increase the vascular tonicity, exert the most favorable influence over the active stages of its progress. Such are the Calabar bean, cannabis indica, gelseminum, ergot, etc. In the active stage of the disease he has not found either opiates or quinine to produce any favorable effects.

Dr. S. C. Busey, of Washington, D.C., reports, in the *National Medical Journal*, a case in which a girl six years of age ate, on the 8th of November, some "chicken-grapes." Two days after, Dr. B. was called to see her, and found a mass of the grape-skins and seeds impacted in the rectum. Other means failing, and a tendency to colitis showing itself, on the 12th Dr. Busey removed the whole mass, about a pint, with his finger and a scoop-director. The operation was followed by very slight bleeding, and by some pain; but the child was playing about the same afternoon, and recovered without any bad symptom.

An older sister of this child had also eaten very heartily of the grapes, and a similar accumulation had taken place; but she discharged the mass by a voluntary effort.

Vapor of Ammonia in Hooping-Cough. — Mr. John Grantham states in the *British Medical Journal*, that in cases of hooping-cough in the last stage (that is, after the third week) he has had one ounce of the strongest liquid ammonia put into a gallon of water in an open pan, and the steam kept up by means of half a brick made red-hot throughout and put into the boiling water containing the ammonia, the pan being placed in the centre of a room, into which the patients were brought as the ammoniated steam was passing off. "This method was used in the evening, just before bedtime; and it has been so efficacious," he says, "in abating the spasmodic attack, and after three or four days terminating the malady, that I cannot over-estimate the great value of this mode of inhaling the ammonia as a therapeutic agent in tranquillizing the nervous system in hooping-cough."

Cinchona Cultivation at St. Helena.—The British government has established a cinchona plantation at St. Helena, at an elevation of twenty-six hundred feet above the sea. The London *Journal of Botany* states that there are now nearly one thousand trees in a fine healthy condition, the tallest between seven and eight feet above the ground. The nature of the land forming the plantation is very steep and rugged. The entire cost of the trees, exclusive of the superintendent's salary, is about $1.50 each. Plantations of pines and other valuable timber trees have also been established, and efforts are making to introduce the cultivation of tobacco and Guinea hemp (*Sanciera Guineensis*); the latter is valuable for its fibre. The superintendent is training up a number of apprentices with a view to their being ultimately useful in the island, where the arts of horticulture and arboriculture have been much neglected.

Smallpox in Liverpool.—In his report on the health of Liverpool during the year 1871, Dr. Trench, the medical officer of that town, gives some interesting statistics in illustration of the influence of vaccination in mitigating the fatal effects of smallpox. Among 1616 patients treated for the disease, the deaths of the unvaccinated and of those in whom vaccination was doubtful were at the fearful rate of 56.4 per cent.; the deaths where one cicatrix was visible, on the other hand, were only 14.9 per cent.; where two cicatrices were visible they fell to 9.8 per cent.; while where three cicatrices were visible they were as low as 7 per cent. Dr. Trench traces the importation of the disease to two Spanish sailors who died of smallpox in hospital in Liverpool in August, 1870. Before this there had not been a death from smallpox in the town since the preceding 1st of January. But these two cases were followed by an epidemic, which, commencing in the immediate neighborhood of the hospital, extended to almost every district of the town, and carried off 2093 persons. From his experience during this smallpox epidemic, Dr. Trench proceeds to show the necessity for enforcing the power granted by the Public Health Act of 1866 to nuisance authorities, to provide mortuaries for the reception of bodies dead of infectious diseases. In numerous instances Dr. Trench found families in single-room habitations, where the living were obliged to be, by night and day, in the presence of the dead. "No language can be too strong to depict the horror of such a condition, its demoralizing effect on the friends of the deceased, and its intense danger to them and to the community. . . . Wakes were held over the dead in the overcrowded rooms, drunken persons lay down at night on the same bed with the corpses, and rose unwashed in the morning to mingle with the general population."

Under the circumstances, the only wonder is that the epidemic did not prove even more destructive.

Clay-Dressings for Smallpox.—Dr. E. S. Bunker, of Brooklyn, writes to the *Medical Record* that during the recent epidemic he used clay-dressings for two pretty decided cases of confluent smallpox. Both patients were young women. One, a married lady, æt. 23 (delivered on the second day of a six months' fœtus), made a fair recovery, took cold after getting up, and in a few days died suddenly of empyema and pericarditis; diagnosis confirmed by autopsy. The other, single, æt. 21, had the disease with great violence, recovered rapidly, and is now well. In each case he dusted finely-sifted pipe-clay over the face as soon as the pustules became fairly developed. This formed immediately a clean, dry, wholesome scab; abolished the intolerable itching and burning; served apparently as a good absorbent of infectious material; and scaled off during convalescence, leaving underneath a soft, natural integument.

There was no disfigurement in either case.

Treatment of Pruritus Vulvæ.—Those who have had any experience in the treatment of this troublesome affection will learn with interest that Mr. McGrath states (*Canada Lancet*, November, 1871) that he has found the following, applied by means of a soft sponge after ablution, morning and evening, attended with the most satisfactory and speedy result:

℞ Biborate of soda, ʒij;
Hydrochlorate of morphia, gr. xx;
Hydrocyanic acid, ʒj;
Glycerine, fʒj;
Distilled rose-water, fʒviij.

Erectile Tumors of the Intestines.—M. Laboulbène (*L'Abeille Médicale*, June 16, 1872) calls attention to the fact that there are but few reported cases of erectile tumors of the intestines. He refers to a case in which the existence of such a tumor was recognized during life, and says that—1, erectile tumors (angiomata) exist in the intestinal canal as well as on the surface of the skin; 2, these tumors are developed in the mucous membrane of the intestine; 3, they sometimes give rise to fatal hemorrhages.

MISCELLANY.

The Medicine of the Future in Japan (*Med. Times and Gazette*, June 29, 1872).—The government of Japan, with a sagacity and foresight which promise well for her future position in the community of nations, has determined to lay the foundation of a good scientific medical school. For this purpose they have rightly chosen the city of Nyaka (or, as it is otherwise called, Kioto)—the residence of the Mikado—and there they will establish a complete medical school and clinical hospital, making use of existing temples and other public buildings till new buildings can be constructed. The model for the hospital is that of Leipsic, on the separate-pavilion principle. They directed their agent in Germany to select for them, as the head or director of the whole establishment, a German physician, whose qualifications and duties they defined with praiseworthy minuteness. He must be well versed in the theory and practice of medicine and the allied sciences, but above all must have seen plenty of practice, and not be a mere theorist or bookworm. He must understand English, and be able to lecture in that language, inasmuch as English

interpreters are more easily procured than others. He must learn the Japanese language, and be prepared to teach it, in due time. He must be well versed in chemistry and physical science, and be ready to give information when appealed to. He must be a man of good general education, good manners, and kind-hearted; must love children, and be just such a man as children would take to readily. He must not be pedantic, or like a drill-sergeant; and must be of temperate habits. He must be in good health, sound in wind and limb and eyesight; not finikin, or of artificial manners, but upright, straightforward, and spontaneously courteous; if he saw surgery in the late war, so much the better. Lastly, the Japanese instructed their agent to choose out of two candidates (all other things being equal) the *shorter*, because, as they are not a tall people, they would expect more sympathy from a man who was not tall himself. The duties of this physician are sufficiently ample and responsible. He has to superintend the erection of the hospital and school; to instruct a body of assistants who begin with some knowledge which they have acquired under the Dutch at Nagasaki, and of students who begin *de novo;* to teach science in general and medicine in particular; to treat the sick; and to lay the foundation of the medicine of the future at Japan. We must not fail to add that the arrangements proposed for remuneration are liberal and thoughtful in the highest degree, and do the Japanese government infinite credit. The task of selection was intrusted to the Professors of the University of Leipsic, and their choice fell on Dr. Junker, whose late essay on tracheotomy is well known to our readers. He is an M.D. of Vienna, M.R.C.S. England, and was attached to the Samaritan Hospital, from which he resigned on the outbreak of the late war, during which he served at Bazeilles, and was afterwards Surgeon-in-Chief of the German Hospital at Saarbrücken.

THE San Francisco *Bulletin* says, "The ingredients of a witch's caldron, as described by the poet, could not have been more repulsively disgusting than are the articles and compounds shipped to the Chinese physicians of this city from their native country, and used as medicines here. There seems to be just at the present time an extra demand for a venomous serpent closely resembling the rattlesnake, and of which hundreds are received constantly. A custom-house official brought a specimen of these cheerful-looking creatures to this office yesterday: a coiled snake about four feet long, fanged, and with hideous head-scales like a crest. How these animals are taken by patients of Chinese doctors is not known. One would be a fair dose if disguised in a coating of sugar. They may be taken in sections three times a day, as they are desiccated, or they may be boiled down or pulverized, and taken in powders or rolled into pills. Lizards are in nearly as great demand as the snakes. These also are dried and sent over in packages, together with hundreds of other loathsome things, all of which are consigned to the Chinese physicians and used by them in their practice."

THE GERMAN HOSPITAL.—At the last stated monthly meeting of the Board of Managers of the German Hospital of the city of Philadelphia, the subject of the dilapidated condition of the present buildings upon the grounds of the corporation, at Twentieth and Norris Streets, was considered. The present buildings, in which there are at this time thirty-nine patients, will barely answer during the present season, and the direction finds itself compelled either to seek a new locality or commence without further delay the erection upon the grounds now occupied by them, in the square between Nineteenth and Twentieth, Diamond and Norris Streets, of a suitable edifice for the purpose. The cold season cannot be permitted to approach without superior accommodations being provided for the inmates of the institution, for which purpose an appeal will be issued to the charitably and humanely disposed.

On the 7th of August a festival was held by the Ladies' Aid Society of the hospital, at the Schützen Park, in aid of the building fund. Music was furnished by the Schützen Liedertafel, and a great many persons were present during the day. The sum realized is said to have been quite handsome.

DONATIONS AND BEQUESTS.—The will of the late S. F. Pratt, of Buffalo, N.Y., contains a bequest of $10,000 to the General Hospital in that city, payable January 1, 1880.

Mr. S. P. Wetmore, of Newport, R.I., has given $1000 to the Newport City Hospital.

The late William S. Rogers, of Boston, bequeathed $50,000 to found a professorship of chemistry in Brown University, at Hartford, Conn., to be known as "The Newport Rogers Professorship."

The Clinic, of Cincinnati, quotes from the *Wiener Med. Presse* of June 30, 1872, a statement that the Countess Seraphine Andrassy, who died recently in Pesth, left her entire fortune to the medical department of the University in that city. Some 30,000 florins are thus bequeathed, of which three-fourths goes to the College, and the remainder to the Children's Hospital.

THE LONDON HOSPITAL FOR SICK CHILDREN.—The corner-stone of the new building for the Hospital for Sick Children, in Great Ormond Street, Bloomsbury, London, was recently laid by the Princess of Wales. The plan of the structure is such that it will be put up in successive sections, as fast as the required money can be raised. This hospital was first put in operation in 1852, with ten beds; it now has seventy-five, and a Convalescent Home at Cromwell House, Highgate, capable of containing fifty-two inmates. Its benefits have been extended to 10,000 in-patients, and 200,000 out-patients, in the twenty years of its existence.

THE new buildings of the Hôtel-Dieu, in Paris, which were approaching completion when the war broke out, will, it is hoped, be finished without further delay under the auspices of the Conseil Municipal. The Hôtel-Dieu, which is just opposite the Cathedral of Nôtre Dame, is the oldest of all the Parisian hospitals, having been founded by St. Landry, a Bishop of Paris, in the fourth century. It was partially destroyed by fire on two occasions in the course of the last century, and in the second of these conflagrations a number of the patients lost their lives. This hospital contains, or rather is capable of containing, eight hundred and twenty-six beds.

THE city of Leyden, Holland, has just inaugurated with great pomp a statue of Boerhaave, the great naturalist and physician, in presence of a vast multitude. A deputation from the Academy of Belgium attended, and the flags of that country were seen mingled with the Dutch colors. The monument is eleven feet eight inches high, and stands on a pedestal of ten feet from the ground. The deceased is represented in his professional robe, with a book in his hand, and seems to be either beginning or terminating a lecture.

A NEW DISPENSARY.—A new medical dispensary was organized and opened to the public of the southern section of the city, on Monday, July 15, at 1017 Morris Street, under the charge of Dr. Wm. H. Hutt, who is assisted by Drs. R. G. Curtin, C. L. Hart, H. F. Baxter, D. C. Mecune, George M. Reed, John Sterling, and W. F. Woolsey.

MONUMENT TO VON GRAEFE.—At the last Ophthalmological Congress, at Heidelberg, a committee was appointed "to worthily honor the memory of Albert von Graefe by the erection of a statue in some place in Berlin, near the scene of his clinical labors." The names of the committee are as follows:

B. Fränkel, Helmholtz, Von Langenbeck, F. Mendelssohn, Schweigger, Traube, Virchow, Waldeck, Wegscheider, of Berlin; Arlt, of Vienna; Alfred Graefe, of Halle; Donders, of Utrecht; Blessig, Junge, of St. Petersburg; Horner, of Zurich; Warlomont, of Brussels; Von Zehender, of Rostock; Quaglino, of Naples; Bowman, of London; Williams, of Boston, U.S.

GOVERNOR GEARY recently appointed the following-named gentlemen trustees of the State Lunatic Hospital: Traill Green, M.D., Easton; John L. Atlee, M.D., Lancaster; Daniel W. Gross, Harrisburg; George Bailey, M.D., Philadelphia; and Charles S. Miner, Esq., Honesdale, Wayne County. The commissions of the three first are for three years from February 7, 1871; and of the three latter for three years from February 1, 1872.

SPECIAL COMMISSIONER.—The Secretary of the Interior has appointed Dr. Parrish, of Philadelphia, a Special Commissioner of Indian Affairs, to visit the Kiowa Indians for the purpose of investigating the reported troubles among them, and to endeavor to get them to come within their reservations. H. E. Alvord has been appointed an assistant to Dr. Parrish, and will accompany him.

COLLEGE OF PHYSICIANS AND SURGEONS OF NEW YORK.—Edward Curtis, M.D., has been appointed Lecturer on Materia Medica and Therapeutics in this institution, *vice* Jas. W. Lane, M.D., transferred to the Adjunct Professorship of Obstetrics and Diseases of Women and Children. Charles F. Chandler, M.D., has been made Adjunct Professor of Chemistry.

LEGALIZED DISSECTION.—According to the *Boston Medical and Surgical Journal*, Michigan and Iowa have recently legalized dissection, and made provision for it by permitting physicians, medical societies, and colleges to claim for this purpose the bodies of criminals and paupers unclaimed by friends.

PRIZE OFFERED.—From the same source we learn that the sum of three hundred thalers (about $215) has been placed in the hands of the medical faculty of Leipsic, to be awarded by them to the writer of the best essay on the therapeutical uses of chemically-pure beech-wood creosote, sent to them before March 31, 1873.

ST. BARTHOLOMEW'S HOSPITAL.—Lauderdale House, at Highgate, has lately been opened as a Convalescent Home for patients from this institution, with accommodations for thirty-four male inmates. A lease for seven years, rent-free, has been given by Sir Sydney Waterlow.

PROFESSOR TYNDALL has engaged passage for New York, and may be expected in October. He is to remain in this country six or seven months, lecturing in the principal cities.

WE regret to hear of the death of Dr. Augustine H. Fish, of this city, at the early age of 44. Dr. F. was a man of retiring manners, but his unimpeachable honor and integrity, and his conscientious industry in professional duty, secured him the esteem and friendship of all who knew him.

DR. MOREAU MORRIS has resigned the position of City Sanitary Inspector of the Health Department of New York, which he has held since May, 1870.

MORTALITY OF PHILADELPHIA.—The following reports are condensed from the records at the Health Office:

	For the week ending July 27.	Aug. 3.
Consumption	33	37
Other Diseases of Respiratory Organs	8	17
Diseases of Organs of Circulation	9	13
Diseases of Brain and Nervous System	73	53
Diseases of the Digestive Organs	48	45
Diseases of the Genito-Urinary Organs	11	5
Zymotic Diseases	200	155
Cancer	9	11
Casualties	12	12
Debility	67	72
Old Age	19	19
Scrofula	2	0
Stillborn	12	17
Suicide	1	4
Sunstroke	9	1
Intemperance	0	1
Unclassifiable	14	15
Unknown	3	0
Totals	530	477
Adults	187	171
Minors	343	306

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 19, 1872, TO AUGUST 4, 1872, INCLUSIVE.

RANDOLPH, J. F., SURGEON.—By S. O. 176, War Department, A. G. O., August 1, 1872, granted leave of absence for three months, on surgeon's certificate of disability.

HASSON, A. B., SURGEON.—By S. O. 143, Department of the East, August 2, 1872, granted thirty days' leave of absence.

TOWN, F. L., SURGEON.—By S. O. 141, Department of the East, July 29, 1872, granted thirty days' leave of absence, on furnishing satisfactory medical attendance during his absence.

GODDARD, C. E., SURGEON.—By S. O. 167, War Department, A. G. O., July 22, 1872, relieved from duty in Department of Dakota, and to report in person to the Commanding General, Department of the East, for assignment.

STERNBERG, G. M., ASSISTANT-SURGEON.—By S. O. 167, War Department, A. G. O., c. s., relieved from duty in Department of the East, and to report in person to the Commanding Officer, Department of the Gulf, for assignment.

SEMPLE, J. E., ASSISTANT-SURGEON.—By S. O. 167, War Department, A. G. O., c. s., relieved from duty in Department of the Lakes, and to report in person to the Commanding Officer, Department of the Gulf, for assignment.

JANEWAY, J. H., ASSISTANT-SURGEON.—By S. O. 122, Department of the Missouri, granted twenty days' leave of absence, to take effect from the date of his leaving Fort Hays, Kansas.

HORTON, S. M., ASSISTANT-SURGEON.—By S. O. 122, Department of Texas, July 15, 1872, assigned to duty at Fort McKavett, Texas.

WILLIAMS, J. W., ASSISTANT-SURGEON.—By S. O. 167, War Department, A. G. O., c. s., relieved from duty in Department of the East, and to report in person to the Commanding General, Department of Dakota, for assignment.

BARTHOLF, J. H., ASSISTANT-SURGEON.—By S. O. 68, Department of the Lakes, July 22, 1872, assigned to duty at Fort Niagara, N.Y.

KOERPER, E. A., ASSISTANT-SURGEON.—By S. O. 122, Department of Texas, c. s., assigned to duty as Post Surgeon at Fort Griffin, Texas.

O'REILLY, R. M., ASSISTANT-SURGEON.—By S. O. 122, Department of the Platte, July 20, 1872, granted leave of absence for thirty days.

CARVALLO, C., ASSISTANT-SURGEON.—By S. O. 164, War Department, A. G. O., July 18, 1872, granted leave of absence for fifteen days.